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New Remedies,

AN ILLUSTRATED
Monthly Trade Journal of
MATERIA MEDICA, PHARMACY AND THERAPEUTICS.

— 1877. —

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Henry B. Parsons.
Ann Arbor.
Jan. 21, 1878. Michigan

American druggist...

38306

NEW REMEDIES

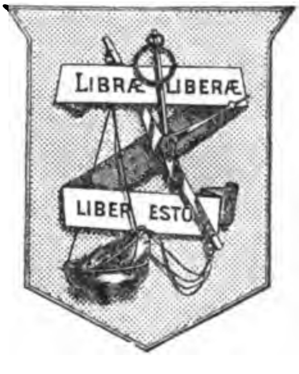
A MONTHLY TRADE JOURNAL

OF

Materia Medica, Pharmacy and Therapeutics.

FRED'K A. CASTLE, M.D., EDITOR.
CHARLES RICE, ASSOCIATE EDITOR.

VOL. VI.



WILLIAM WOOD & COMPANY,
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1877.

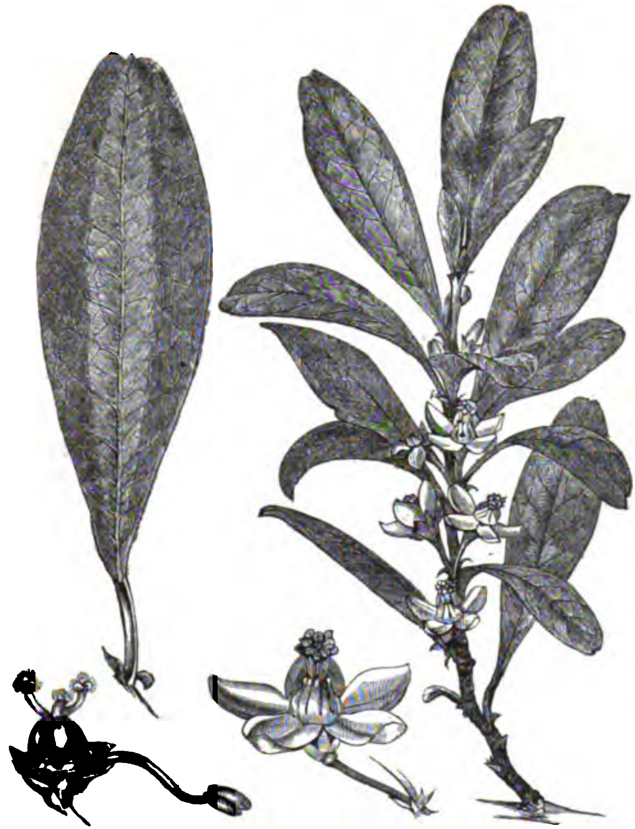
NEW REMEDIES.

VOL. VI., NO. 1. JANUARY 15, 1877. WHOLE NO. 31.

MATERIA MEDICA.

Erythroxylon Coca.

THE accompanying illustration from *The Garden* is a very good representation of the plant which has several times attracted the attention of the medical world, owing to its alleged power of relieving or preventing muscular fatigue, and of taking the place, to some degree, of food. The plant from which the drawing was made is an inhabitant of the Royal Botanic Gardens, Regent's Park, London, where a number of samples exist. So far as can be discovered, it is a very variable plant. In English nurseries it grows in the form of a shrub, three feet to four feet in height. Some of the specimens are much branched, and the leaves differ very much from each other, both in size and shape.



The Coca Plant.—Leaf, natural size, single flower, and ovary enlarged.

The plant is said to be easily cultivated in an ordinary plant-stove, in a compost of fresh fibrous loam, leaf mould, and sand; when growing it requires copious supplies of water at the root, and frequent syringing with tepid water, to keep down insect pests. Cuttings of both stem and root may be employed for purposes of propagation.

There are about seventy species of Erythroxylon, some of which have stimulating qualities, while others furnish a tonic bark somewhat resembling that of cinchona. The bark of one species—E. tuberosum—supplies a reddish dye. The majority of the species are natives of South America and the West Indies, but others are found in Madagascar and the Mauritius. In nearly all the species a distinct pale band runs up the centre of the back of the leaf, as shown in our engraving; indeed, in some descriptions of the leaf of the coca plant, it is stated that two veins, in addition to the mid-rib, run parallel to the margin, as in melastomads.

Articles on the therapeutic uses of the leaf, as well as its history as a masticatory, will be found in the last volume of NEW REMEDIES, but we will add here a synopsis of its effects as determined by Sir Robert Christison, who, during the past year has, with others, made a number of experiments with it, and whose efforts have mainly been the cause of the renewed interest which the drug has awakened. His conclusions are: (1) That, taken in quantities of two drachms by healthy persons, it has no injurious, unpleasant, or suspicious effect whatever; (2) that in very few cases this dose of an inferior sample had no effect at all; (3) that in by far the greater number of instances, and with a fine sample, extreme fatigue was in every case, removed and prevented from returning, and that no doubt can exist that in such persons its restorative and preventive powers will render protracted exercise easy, without any subsequent harm, so far as the restorative is concerned; (4) that it does not in the end impair the appetite or digestion, although hunger, even after long fasting, is taken away for an hour or two; (5) that the use of it does not agree with more than a very moderate use of alcoholic stimulants.

Asparagin in Sweet Almonds.

MR. L. PORTES, in a paper published in the *Répertoire de Pharmacie* (1876, p. 641), announces the discovery of asparagin in sweet almonds. He noticed a peculiar crystalline crust to form on the outside of peeled almonds placed in absolute alcohol, and made a systematic series of experiments to ascertain the nature of the substance, as follows: 11,380 grammes of sweet almonds were divided into four portions, three of which were blanched, while one was left unblanched. They were then treated in the following manner: 500 grammes were placed into absolute alcohol, another 500 gm. into alcohol of 90 per cent., 250 gm. were placed into ether, and 8,000 gm. (unblanched) were put into alcohol of 90 per cent. At the same time 100 gm. of the skins, or testæ, were macerated in a fifth flask of absolute alcohol.

On the first day nothing particular was noticed in the first flask, but on the second day some crystalline grains, resembling sand, were observed to form on the kernels and the walls of the vessel; two days afterwards these crystals became more numerous and settled to the bottom, while nothing similar was observed in the other vessels until the fifth day, when the same substance began to make its appearance in the second flask, increasing gradually in quantity as in the first. At the end of a week the contents of the fourth flask exhibited the same phenomena, but the crystals were much larger and less numerous. In the third and fifth flask, however, no change was observed, even after the lapse of a month.

It would therefore appear that strong alcohol, on penetrating through fresh, sweet almonds, eliminates from them a crystalline substance, which seems to reside almost exclusively in the cotyledons. It was further ascertained that dilution of the alcohol retards the appearance of the crystals, and that when alcohol of 60 per cent. is employed their formation is entirely prevented. Now, as subsequent examination proved these crystals to be insoluble in strong alcohol, the question arose, how alcohol could extract the substance from the kernels. The author's explanation appears to be the most plausible and rational one. He assumes that as the alcohol gradually makes its way into the interior it encounters and becomes mixed with the natural liquids of the kernel, and by displacing them causes them to pass outwards. This cellular sap, then, encountering a great mass of alcohol as yet unaltered and absolute, becomes mixed therewith, and as the crystallizable matter which the sap contains is insoluble in the menstruum, it becomes slowly deposited in a crystalline form upon the exterior of the kernels and upon the walls and bottom of the vessel.

After the formation of the crystals appears to be completed, if the whole be thrown on a strainer, and the crystalline substance be dissolved out by boiling water, a magnificent crop of crystals, resembling candied sugar, will be obtained on cooling or slightly concentrating the solution.

This substance was found to be but little soluble in cold water; easily soluble in hot water, hot dilute alcohol, ammonia, acids and acid solutions; insoluble in strong alcohol, ether, and fixed oils. These properties, together with its elementary constitution ($C_4H_8N_2O_3$, H_2O), and its crystallographic character prove the substance to be asparagin.

Artificial Coloring of Honey.

MR. CH. MÉNIÈRE, of Angiers, states that the honey which is obtained from Bretagne has a peculiar color and flavor, owing to the admixture of from 10 to 20 per cent. of finely powdered, roasted and dried crumb or rind of bread, and a small quantity of essence of thyme.—*Rép. de Ph.*, 1876, 610.

Adulteration of Arrow-root.

SEVERAL cases of adulteration of arrow-root have been lately tried before English law courts under the Adulteration Act. Some Natal arrow-root, among others, was found on examination to contain one-half its weight of cassava starch.—*Pharm. J. and Trans.*

Peroxide of Hydrogen as a Disinfectant.

THE extraordinary powers of hydrogen peroxide as a disinfecting and oxidizing agent have been known for a long time, but the complicated and tedious method of its preparation has been a bar to its adoption on the large scale. Mr. Charles T. Kingzeft, in conjunction with Mr. Zingler, have recently instituted some experiments, based on certain researches on the hygienic influences of the pine and eucalyptus trees,* by which they ascertained that by exposing a mechanical mixture of water and turpentine to a current of air at normal summer temperature, a solution containing hydrogen peroxide, and camphoric acid—the result of splitting up of the turpentine—may be readily obtained. The solution is an aqueous one, containing no oil of turpentine; it appears to be non-poisonous, and is absolutely without harm to textile fabrics. It does not injure carpets or furniture when applied to them, and is slowly but perfectly volatile. It is hoped shortly to produce large quantities on a manufacturing scale, for use in watering roads and streets, and in private houses, hospitals, and other localities where prompt disinfectants are required.—From *Pharm. J. and Trans.*, Dec. 1876, 451.

Chinese Galls.†

THE plant which bears these curiously-shaped excrescences is *Rhus semialata*, Murray, a small tree of the order Anacardiaceæ, native of Northern India, China, and Japan. This species of galls was mentioned already by Geoffrey as *Oreilles des Indes* in 1724, but soon after seems to have disappeared from the market, until attention was again drawn to them by Pereira in 1844, since which time they have been largely exported from China and Japan.

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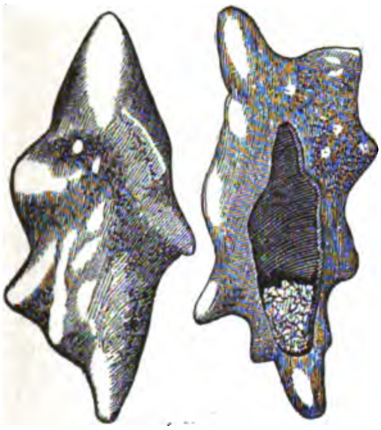
* See p. 16.

† After *Flückiger*, Pharmacogr., 539, and *Hager*.

These galls are vesicular protuberances, formed on the leaf-stalks and branches of the above-mentioned tree, by the puncture of an insect provisionally called Aphis Chinensis. The production of the galls is supposed to be as follows, judging from the analogous formations seen in Europe:



According to Doubleday, it is probable that the female aphis punctures the upper surface of the leaf (more probably leaf-stalk), the result of the wound being the growth of a hollow expansion in the vegetable tissue. Of this cavity the creature takes possession, and brings forth a progeny, which lives by puncturing the inner surface of their home, thus much increasing the tendency to a morbid expansion of the soft growing tissue in an outward direction. Meanwhile the neck of the sac-like gall thickens, the aperture contracts, and finally closes, imprisoning all the inmates. Here they live and multiply, until, as in the case of the pistacia gall of Europe, the sac ruptures and allows of their escape. This, we may imagine, takes place at the period when, after some generations all wingless, and perhaps all female,—for the female aphis produces for several generations without impregnation—a winged generation of both sexes is brought forth. These may then fly to other spots, and deposit eggs for a further propagation of their race.

The galls are light and hollow, varying in length from one to two and a half inches, and are of extremely diverse and irregular form. The annexed cut represents an unopened gall, and another open, showing its contents. The body of the gall is generally distorted by numerous knobby or horn-like protuberances or branches. When opened they are found to contain a white, downy-looking substance, together with the minute, dried-up bodies of the insects. Chinese galls contain about seventy per cent. of tannic acid, which is obtained from them much whiter than from Aleppo galls; but it is said that they cannot be successfully used in the manufacture of black ink.

On the Distribution of Cardiac Poisons in the Vegetable Kingdom.*

THE number of plants which have up to the present time been recognized as cardiac poisons is comparatively small and confined to but few natural families; and the number of pure proximate principles obtainable from these plants is nearly equal to the number of plants themselves, as the presence of several principles in one plant appears to be counterbalanced by their absence in others. It is a remarkable fact that all firmly established active principles which affect the heart's action, like digitalis, have been found to be glucosides, with the sole apparent exception of oleander, which is said to contain an alkaloid as active portion. But the chemical history of this plant is by no means fully studied, and it is quite likely that on further investigation the supposed alkaloid will resolve itself into a glucoside.† It is probable that most of these plants contain still other additional proximate principles, acting upon the nervous system in one way or another, as for instance the glucoside digitonin, resembling in its action saponin, in Digitalis; or helleborin, resembling the hypnotic opium-alkaloids, in Helleborus niger and H. viridis, etc. The only exception appears to be *Thevetia neriifolia*,‡ which was recognized as a cardiac poison by Prof. Husemann, and which appears to contain only a single glucoside.

We now turn to the consideration of the various natural families furnishing these poisons, beginning with the dicotyledonous group. The majority of the latter is represented with a solitary genus, or even species, while only one family, the Apocynaceæ, furnishes several representatives. The importance of the latter family will justify us in placing it at the head, especially as it is highly probable that other members of it, as yet unstudied, will be found to possess similar properties. In the following notes only such points are mentioned or touched upon as are not generally found in the usual works on phytochemistry and pharmacodynamics, it being supposed that the latter works will be consulted for further information.§

1. APOCYNACEÆ.

The oldest known cardiac poison belonging to this family is *Tanghinia venenifera*, Poiret (*T. Madagascariensis*, Pet. Th.; *Cerbera Tanghin*, Hooker), native of Madagascar and other islands of the east coast of Africa, the bitter seeds of which are employed—like Calabar beans—by many African tribes as *criteria culpæ* in ordeals. Their chemical investigation cannot be considered as terminated, since the crystalline substance obtained from them, and termed tanghicin,[*] does not produce the characteristic effects of the seeds. The activity of the latter is, on the contrary, ascribed to a brown, sticky mass extracted from the seeds, and not entitled to be counted among proximate principles. Husemann, however, suspects that this crystalline tanghicin (of Henry and Ollivier) still partakes of the general properties of the seeds, since it causes intense vomiting in dogs, which is well known to be a main symptom of cardiac poisons. Whether tanghicin is a glucoside or not, is unknown; but the investigations of Kölliker and Pelikan (1850) prove, beyond doubt, that an alcoholic extract of tanghinia seeds is an active cardiac poison; and this alcoholic extract must necessarily contain tanghicin, which therefore was made to take part in the experiments of the last-mentioned physiologists. Should there be discovered in tanghinia a second substance affecting the cerebral functions, as it is made probable by the researches of Ollivier and Henry (who administered some of the above-mentioned brown mass to a guinea-pig, which fell asleep standing), the constituents of the plant would be analogous to various species of Helleborus.

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* Abstract of a paper by Prof. Th. Husemann, of Göttingen, in *Archiv der Pharmacie*, Nov., 1876.

† Schmiedeberg, in *Beitr. f. Anat. und Physiol.*, has indeed lately shown that oleander does not contain alkaloids, but glucosides with cardiac effect.

‡ NEW REMEDIES, v., 211.

§ Particularly *Die Pflanzenstoffe*, etc. Von Th. Husemann und A. Husemann. 8vo. Berlin. 1872.

Nearest related, botanically, to Tanghinia venenifera, is *Thevetia neriifolia*, Jussieu (*Cerbera Thevetia*, L.), native of the West Indies and South America; the *ahovai-tree* of the Antilles, which contains, especially in the fruit, the glucoside thevetin,[†] first studied by Blas and demonstrated by Husemann [‡] to act upon the heart, as likewise does its derivative theveresin. Since the substance thevetin is also found in the bitter seeds of *Cerbera Odallam*, Ham., the Javanese Mangas (Manghas), or Resin-tree, there can be no doubt that the latter apocynaceous plant is also a cardiac poison.

A fourth member of this group is the arrow-poison, *Iné, Onage, or Kombe*, which is used in a large portion of Africa in the killing of large game (elephants, etc.). Pelikan, in 1865, first proved this substance to belong to the cardiac poisons, and his statements were corroborated by the investigations of Fraser (1871), Polaillon and Carville (1872), and Valentin (1873). The source of the poison is a species of *Strophanthus*, either *S. hispidus*, according to Baillon, or a new species, *S. Kombi*, according to Oliver. Fraser claims to have isolated, from an alcoholic extract of the seeds, the active principle, which he called strophanthin, but he has not furnished further data.[§]

The fifth member of this group is the well-known oleander, *Nerium Oleander*, L., the chemical constituents of which have so far not yet been established with satisfactory exactness.[‖] Lukowsky reported the discovery in oleander of two alkaloids, oleandrin and pseudocurarin,[*] but these were not obtained in a pure state, and require re-examination. It remains to be seen whether Lukowsky's oleandrin, described as a faintly yellow, resinous and very bitter body, is identical with the yellow acrid resin obtained by Pelikan (1866), and pronounced by him as the active cardiac principle of oleander, mixed, however, in the plant with substances which were said by him to interfere with its action. The possibility of the existence of alkaloids in oleander cannot be denied *a priori*, particularly as another nearly related plant, belonging to the same natural family, undoubtedly contains an alkaloid, namely, conessin or wrightin, in the bark and seeds of the East Indian *Wrightia antidysenterica*, R. Br., which Linné yet classified under the genus Nerium (as N. antidysentericum). The last-named plant, however, as has been shown by Husemann in 1865, does not contain a cardiac, but a cerebro-spinal poison.

The poisonous properties of Wrightia dysenterica show, that in the search for other cardiac poisons among the Apocynaceæ we must not always expect to find them in the nearest relatives to plants already known to contain them. Botanical relationship alone does not decide, and in this family particularly especial care must be exercised, as it contains plants of widely varying poisonous characters. Besides the above-named Wrightia, this family includes a great number of tropical plants, which contain an acrid, milky juice, and may be classed among topical poisons or drastic purgatives. Many species of *Rauwolfia*, *Echites*, and *Tabernæmontana* belong to this kind.

A few North American members of this family appear yet to deserve particular attention. *Apocynum cannabinum*, L., is considered as antihydropic, and is also used as an emetic. It is a favorite remedy of the eclectics, together with another species, *Apocynum androsæmifolium*, L., both of which are generally used in the form of resinoids. This so-called apocynin is said to be an excellent alterative aperient, possessing tonic and diuretic properties. It is quite possible that Apocynum may contain a cardiac poison, but on the other hand its effect may be attributed to a topically irritant constituent, as we find the statement that the milky juice is capable of blistering the skin, and that even the effluvia and evaporation of the plant causes swelling of the skin, which properties would make it appear to resemble the poison-sumac and manchineel tree.

Finally, there is to be mentioned one other plant, belonging to this family, namely, *Vinca minor* L., or, lesser periwinkle, which is regarded as an excellent diuretic in many parts of Germany, while in others it is esteemed as an effective remedy in dysentery. The possibility of the existence in this plant of a cardiac poison may also extend to other species of the same genus, for instance,

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[*] Or tanghinin. See *Pflanzenstoffe*, p. 871.

[†] *Pflanzenstoffe*, p. 869.

[‡] *Arch. f. experim. Pathol. u. Pharmacol.*, v., p. 228.

[§] A detailed report on this plant and its poison may be found in *Wiggers und A. Husemann's Jahresbericht*, 1871, p. 543, and 1872, p. 614.

[‖] See, however, the note on p. 3.

[*] *Pflanzenstoffe*, p. 419.

Vinca major L., which has been used in other countries for similar purposes.

2. SCROPHULARIACEÆ.

This natural family is distinguished by the peculiarity that one and the same species contains quite a number of cardiac poisons as glucosides. This is foxglove, or *Digitalis purpurea* L., with three glucosides producing cessation of heart's action in systole—which we denominate digitalin, digitaleïn, and digitoxin*—together with a fourth, resembling saponin in its action, and a fifth (digitin), which is inert; besides several decomposition-products of the single glucosides varying in the different commercial varieties of "digitalin."

After the researches of Schmiedeberg had shown that the substance called "digitalin" did not altogether consist of cardiac poisons, we are enabled to understand the varying statements about the greater or lesser activity of the different species of digitalis. . . . . Since we have acquired a clearer knowledge, in general, of the chemical constituents of digitalis, and since we know that the substance digitoxin (the principal constituent of Nativelle's crystallized "digitalin") acts with much greater energy than the two other glucosides, the question arises, whether the differences of effect, which season, place of growth, and quality of soil produce in digitalis, is not owing to the excessive or defective production of one or another of these glucosides. Various analogies appear to corroborate this view; among others, the influence of sunlight and shadow, noticed by Stenhouse, upon the active constituents of Sarothamnus Scoparius, and the increased percentage of quinia in East Indian bark treated by manuring.

Among the plants which are nearest related to digitalis, we could scarcely name a single genus which might be suspected to contain a cardiac poison. The nearest approach to it is perhaps *Chelone glabra* L., which we learn is used by the North American Indians as a tonic and anthelmintic; but it cannot be reckoned among the poisons. A very poisonous plant belonging to this family, and generally omitted in toxicological works, is *Franciscea uniflora*, Pohl.; but our accounts of this Brazilian plant are insufficient to decide whether it belongs to the agents of local or remote effect; it is considered as a hydragogue cathartic, abortive, and antisyphilitic, on account of which latter property it is named "Mercurio vegetal."

(*To be continued.*)

Safrol.

CRYSTALLINE oil of sassafras was first examined by St. Evre in 1844, under the name of sassafras-camphor. According to him the crystals melt between 5° and 17° C., and congeal again at 7.5° C. Grimaux and Ruotte, who examined the oil in 1869, do not mention this crystalline portion, although they found a substance having the same boiling point and elementary composition as sassafras-camphor, but not becoming solid even at 20°. They named this substance Safrol. This was found to be accompanied by another body, Safren, which turns the plane of polarization to the right, while safrol is optically indifferent. Flückiger suspected that this safrol was in reality identical with the first-named sassafras-camphor, and that the refusal of the substance, in the hands of Grimaux and Ruotte, to solidify, was due to some special cause. This was found to be the case; for Flückiger ascertained that safrol is one of those remarkable substances which are capable of existing either in a fluid or solid condition long after they have passed their freezing or melting point. The measurement of the crystals proved them to belong to the monosymmetric system.—A. ARZRUNI in *Neues Repert. für Pharm.*, No. 10.

Hunyadi Janos Mineral Water.

THE Hunyadi Janos, or John Hunyadi mineral water, was so called after a distinguished Hungarian leader, by its proprietor. It comes from the neighborhood of Buda, or Ofen, where the spring was discovered in 1863. Since that time more extensive examinations have led to the discovery of other springs in the neighbourhood, and from these the water is obtained.

It is richer in purgative salts than any water now imported. Of the characters and properties of this water we are enabled to speak from a somewhat extended experience. The water is bright and clear, with no deposit even after long keeping. Its taste is bitter, but not disagreeably so, and possesses nothing of that nauseous character which sometimes renders the use of purgatives disagreeable. Its chief characteristic is that it renders singularly sweet and pleasant the subsequent draught of ordinary water. Only a small quantity is required—not more than a wineglassful—and this should be taken the first thing in the morning, and shortly followed by a hot draught of tea or coffee, or itself may be warmed and taken hot, with or without the addition of ordinary drinking water. It is of great use in habitual constipation, in catarrhal condition of the bile ducts and bowels, and for congestion of the liver and other organs. One thing worthy of note we would remark—that its use does not give rise to subsequent constipation; on the contrary, the bowels remain slightly relaxed for a time.—*The Medical Times and Gazette.*

The Copaiba Tree.

MR. ROBERT CROSS, who has just returned to England from South America with a large number of india-rubber plants (*Hevea Brasiliensis*), has also brought with him, we learn from the *Gardeners' Chronicle*, a small quantity of well-ripened seeds of the copaiba tree, which gives the balsam of copaiva of commerce. The seeds were collected, after much searching, in the forests of Pará. The balsam obtained from the Pará tree is reported to be more transparent than that from other districts, and is called *copaiba blanca*. A large quantity of it is sent annually to the French market, where it commands the highest price. In the Pará forests, the trunks of the trees are seen rising to a height of about eighty feet without a branch. Such trees, if tapped at the proper time—which has yet, however, to be determined—will often yield 4 "potos," or about 84 pints, each. Mr. Cross describes the life of the balsam collector as being a very wretched one.

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* After Schmiedeberg, *Archiv. f. exper. Pharmacol.*, iii., 1, pg. 16.

Chloride of Lead as a Disinfectant.

Dr. R. H. Goolden recommends the following solution as a disinfectant: Dissolve 36 grains of the nitrate of lead in two pints of water and 120 grains of common salt in three gallons of water. Pour these together and allow them to settle, and you will have a definite saturated solution of the chloride of lead, which contains no more of the salt than is necessary to decompose fetid gas, and is not poisonous, for it is converted in the bowel into the sulphide.

Iodide of Starch as an Antidote.

Dr. Bellini, Professor of Toxicology at the Royal Institute at Florence, recommends iodide of starch as a valuable antidote in poisoning by alkaline and earthy sulphides, caustic alkalies and ammonia, and the vegetable alkalies. In poisoning by alkaline or earthy sulphides, he thinks it preferable to all other antidotes; in poisoning by caustic alkalies, it is applicable when acid drinks are not at hand.

Chloral with Solid Fats.

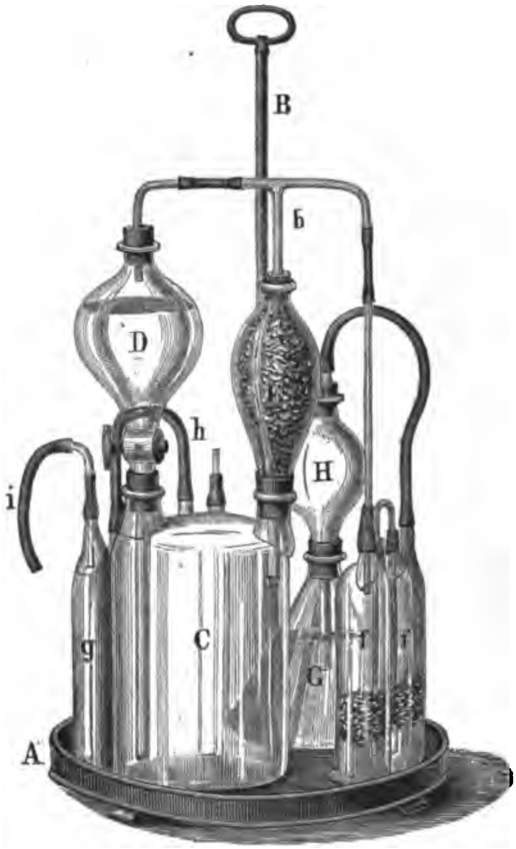
An anonymous writer in the *Med. and Surg. Rep.* says, as a therapeutic agent, chloral has become so popular that its range of application is as diversified as any drug or chemical of a century's standing; but its nature has not been sufficiently studied to construct formulæ readily that furnish preparations easily dispensed and always praiseworthy; on the contrary, formulæ are written which furnish not only inelegant, but almost incompatible preparations. A case in point is its combination with solid fats. It is a matter oftentimes overlooked, if not entirely unknown, that chloral hydrate is a solvent for fats, so much so, that solid fats become liquefied by contact. Hence, it is not advisable to prescribe, for instance, chloral with lard, simple ointment, or even with simple cerate, in a very large proportion. With oleum theobromæ it forms an unctuous mass, which furnishes a very creditable preparation dispensed as an ointment; but to make from this combination a suppository, is almost an impossibility. Still less possible is it to make a suppository containing, with chloral, one of the solid extracts, which must previously be moistened with a little water to make it miscible with the solid fat, as a drop of water increases enormously the fluidity of the oleaginous mixture. The writer has made a number of experiments as to the best excipients, and finds that equal parts of spermaceti and oleum theobromæ have the advantage over any other. In a suppository containing ten to twelve grains of chloral, this is about the proper proportion. Deviating from this strength, the proportion of spermaceti must be increased or diminished accordingly. Vaseline and paraffin, using three of the former to two of the latter, make a very good base, but it does not melt as nicely into an unctuous mass as does the former.

PHARMACY.

A Constant Generator of Chlorine, Ammonia, and Hydrochloric Acid.*

BY HERMANN KÄMMERER.

An apparatus which would deliver an easily regulated, either rapid or slow supply of chlorine, or ammonia, or hydrochloric acid gas, has been a desideratum in many chemical laboratories. It is believed that this want is filled by the apparatus figured and described below, which is easily put together and retains its activity for a long time.



Upon a sheet-iron tray A, provided with a central rod B, for lifting and carrying the whole apparatus, is placed the generating vessel C, being a

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[*] *Ber. d. Deutsch. Chem. Ges.*, 1876, 1548.

two-necked Woulff's bottle, which is filled to one-third of its capacity with chloride of lime. One of its necks carries a globe-, or separatory funnel with stopcock, containing hydrochloric acid mixed with one-half of its volume of water, and saturated with chlorine by introducing into it a small quantity of chloride of lime. The other neck carries a pear-shaped glass globe E, filled with pieces of glass (below), pumice and asbestos (above). Both connections are made by means of perforated rubber stoppers. D is connected with the T tube *b* by means of a short rubber tube. By allowing the acid in D to drop or flow upon the chloride of lime in C, it is easy to regulate a slow or rapid generation of chlorine. The latter is, however, not given up until the calcium compound has been fully decomposed into hypochlorous acid and calcium chloride; on first allowing the acid to flow down, there is produced a greenish brown solution, and afterwards development of chlorine. The liquid in the flask becomes heated to such a degree, that the bottom of C would be in danger of cracking if allowed to stand upon the sheet-iron support. This is prevented by placing the Woulff's bottle upon a block of rubber. The chlorine gas passes first through E, where all liquid particles which are carried upwards mechanically are retained, and then enters the wash-bottles *f f*, containing water. *Both bottles are connected by a single bent tube, reaching nearly to the bottom of each.* In this manner any receding of the liquid in the wash-bottles is effectually prevented. If it is desired to dry the gas, it may be passed through sulphuric acid, contained in the bottles *g g*, which are connected in the same manner as *f f*, and the dry gas delivered by the tube *i*. The flask G contains solution of soda provided with the globe-funnel H, which sits *loosely* in the neck. Whenever the generation of chlorine is to be discontinued, the stopcock of D is closed, and the delivery tube *k* or *i* is connected with H. All excess of chlorine is thereby carried into the soda solution, where it is completely absorbed.

If the apparatus is to be used for the production of ammonia, the Woulff's bottle C is filled with pieces (of about 1 cm.) of dry soda, and the globe-funnel D is charged with a saturated solution of ammonium sulphate, to which a little soda has been added. Decomposition takes place with production of a considerable degree of heat. The wash-bottles *f* and *g* are replaced by jars containing lime and potassa, and the absorption flask G is charged with moderately dilute sulphuric acid. Between the T tube upon E and the drying jars, a small wash-bottle containing glycerin may be attached, in order to be able to better observe the rapidity of the current.

To generate hydrochloric acid, C is filled with large pieces of sublimed ammonium chloride, D with concentrated sulphuric acid, and G with soda solution.

[The same apparatus may be used for the generation of sulphuretted hydrogen, by charging D with dilute sulphuric acid, C with ferrous sulphide, and G with a concentrated solution of lead acetate.—Ed. N. R.]

Carrageen-Wadding.

Cotton wadding saturated with a decoction of carrageen or Irish moss and dried, has been proposed and prepared by Lelièvre, as a substitute for linseed-poultices. A thin layer of cotton is spread out upon a sheet of tinned iron, a concentrated decoction of Irish moss is applied to it (about 1 cm. high), and another layer of cotton of the same size, but thinner, is placed over it. After a few minutes, the whole is covered with a second sheet of tinned iron, a gradually increased pressure is applied, and the wadding finally dried in a lukewarm place. It is prepared for use by allowing a piece of the wadding to soak for about fifteen minutes in a plate of hot water. It swells up, and is applied, while still hot, as cataplasm.*—*Pharm. Centralh.*, 1876, 382.

Oleate of Bismuth.

There are but very few solvents of bismuthic compounds which permit their promiscuous use internally or externally. That which is most commonly employed is a solution of ammonium-citrate, containing bismuth either as nitrate or as citrate—according to the mode of preparation, and known under the names "liquor bismuthi" or "liquor bismuthi et ammonii citratis." Mr. S. C. Betty now proposes a new solvent, namely, oleic acid, which will probably be found to be more advantageous when desiring to employ the solution endermically. This compound was first suggested by Dr. Louis Lewis, of London, and is prepared by Mr. Betty as follows: Oxide of bismuth, Br. P.,† is ground very fine, and the oleic acid gradually incorporated with it. The mixture being placed into a suitable vessel, is subjected to a temperature of nearly its boiling point, then allowed to digest with frequent agitation at a temperature of about 60° C. during four days, or until it solidifies. The result is pharmaceutically a plaster, chemically an oleate of bismuth. According to Mr. Betty's statements, however, the results of this manner of preparation are not uniform, so that probably an easier or more reliable process will have to be substituted.

As to the therapeutic application of this compound, it might be objected to by those who maintain that the energy of the bismuthic compounds is exerted by mechanical contact. Yet it will probably be found a useful application in certain skin diseases, as it readily melts in the hand, is bland to an excoriated surface, and penetrates by its limpidity.—From *Pharm. J. and Trans.*, Dec., 1876, 470.

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* On page 89 of the last volume we mentioned this among our trade notes, and referred to John F. Henry, Curran & Co., of this city, as the agents for the sale of the article in this country.

† The trisnitrate and carbonate are useless for this purpose.

Note on the Benzoates in Suint.

At the last meeting of the British Pharmaceutical Conference, the following paper was read by Mr. Andrew Taylor:

"The potash salts recovered from suint, the greasy matters washed out by water from wool, now constitute one-fiftieth part of their annual production. Little or nothing has been done to the commercial utilization of the greasy matters themselves. Messrs. Schulze and Allrich extracted some very interesting constituents by alcohol, but the portion of the suint unattacked by this solvent consisted of benzoates. Desiring to obtain a large result, I employed an eighty-gallon jacketed steam still, working at a pressure of twenty pounds to the square inch, and distilled in it equal mixtures of petroleum spirit and suint, until I had operated on a ton of the latter substance. Suint is usually concentrated to 30° B., weighing fifteen pounds to the gallon, and one hundred and fifty gallons had to be gone through. I recovered nearly all my petroleum spirit, and besides, a yellow fatty liquid. Every five gallons of suint used gave one of this fat; this is in the proportion of thirty gallons to the ton. On heating eight gallons of this fat in a steam jacket, after adding about a gallon of hydrochloric acid, for about an hour and a half, during which the boiling shed was filled with ammoniacal and other vapors, I found remaining a brown liquid filled with benzoic acid crystals; the sides of the vessel were also covered with these shining needles. Fully three-quarters of a pound of dried substance was collected from the drainings and the sides of the vessel, or nearly three pounds to the ton of suint. I believe the whole benzoic acid was not collected, and from laboratory experiments I find the water washed from the wool yields nearly three per cent. more benzoic acid than the concentrated suint.

Whatever economic difficulties may surround the commercial recovery of potash salts from suint, such a ready source of benzoic acid ought to bring it into much more general use, especially as a preservative agent for organic substances. It might be easily collected at every sheep-washing station."—*Chem. and Drug.*

Fluid Extract of Senna.

A. F. W. Neynaber[*] contrasts the views and usages of European pharmacists in regard to the fluid extract of senna with the method directed by the United States Pharmacopœia, which requires it to be made with alcohol, water, and glycerine, in the proportion of two parts by measure of the former to one part each of the latter.

He believes that:

1. An aqueous extract is superior to an alcoholic extract of senna.

2. A certain percentage of alcohol (20 per cent.) should be added to the water to prevent the souring of the fluid extract, and also to prevent the extraction of inert mucilage from the senna.

3. Senna, to be extracted by means of a menstruum containing no more than 20 per cent. of alcohol, should be coarsely powdered to the fineness of 16 meshes.

The following he recommends as a good working formula according to the above views:

"Senna, coarsely powdered, 16 Troy ounces. Moisten with a menstruum of alcohol 1 measure, water 4 measures. Pack in a percolator; close the outlet so that the liquid will pass only in drops, and continue the percolation until the senna is exhausted. Add to the percolate two fluid ounces of glycerine, evaporate it to 13 fluid ounces, add 3 fluid ounces of alcohol, and mix."

He says that a fluid extract of senna prepared carefully according to this formula, from the best Alexandria senna, will be clear, efficacious, and will keep well.

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[*] *Druggists' Circular.*

Arsenical Phosphorus.

At the last meeting of the American Pharmaceutical Association a paper was presented by Mr. L. Dohme, of Baltimore, in which he reported the results of his analyses of various brands of phosphorus. While he found the American phosphorus free from arsenic, he ascertained the presence of the latter in two English samples to the extent of 0.562 per cent. and 1.066 per cent. respectively.[*] Mr. E. Reichardt, of Jena, has lately noticed that a lot of phosphorus in flat pieces had, without any known cause, turned into the black modification; and as some chemists had attributed this change to a probable presence of arsenic, it was examined for this body, but with a negative result. On the other hand, stick-phosphorus of recent manufacture was found to contain not less than 3.51 per cent. of arsenic. This arsenical phosphorus certainly does not long retain its original waxy appearance. Very soon it turns white, or, under the influence of light, red; so that it would appear that the presence of this impurity had some influence in inducing the change.—*Arch. d. Pharm.*, Nov., 1876, 442.

A Crystalline Compound of Quinia and Ferric Chloride.

During his experiments with alkaloidal precipitants,[†] Dr. Rich. Godeffroy observed that quinia hydrochlorate is capable of forming a crystalline compound with ferric chloride. If a watery solution of the quinia salt be mixed with a watery solution of the iron salt, and the mixture be concentrated—with the precaution of adding from time to time a few drops of hydrochloric acid, to keep up an acid reaction and prevent the formation of a basic salt of iron—a double salt of quinia hydrochlorate and ferric chloride separates in small, yellowish red crystals.[‡] This compound is easily soluble in water and alcohol; it has a bitter and inky taste, and may be heated to 110–120° C. without being altered.—*Arch. d. Pharm.*, Nov., 1876, 435.

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[*] New Rem., v., 307.

[†] See p. 16.

[‡] This salt might perhaps be used medicinally, in which case it might be termed *Quiniæ et Ferri Chloridum.*

How to Keep Vegetable Drugs.

HANS M. WILDER says (*Druggists' Circular*): "The reason of drugs spoiling, notwithstanding all extra care in the shape of tight-fitting covers, and the use of tins and glass, is the following: When herbs, etc., are properly dried, they still contain a not inconsiderable quantity of watet, and will, if kept in non-porous receptacles, by each rise of temperature, load the air on top with vapor which condenses at a lower temperature, and shortly the contents begin to grow mouldy. If, on the contrary, kept in porous receptacles, such as wood, pasteboard, etc., the moist upper layer of air will, through the pores, equalize itself with the surrounding air. Herbs that are over-dried attract moisture as soon as the receptacle is opened. That vegetable drugs should be kept in a dry place, it is not necessary expressly to state.

"Breau (1865) divides powders into three classes:

'I. Those that keep *only* in paper or pasteboard: Aconite, angelica, belladonna, cantharides, conium, cochineal, columbo, digitalis, elecampane, gentian, gum-arabic, hellebore, hyoscyamus, ipecacuanha, jalap, liquorice root, marshmallow, orris root, rhatany, roses, savin, stramonium, and similar powders.

'II. Powders which keep as well in paper as in glass: Agaric, angostura, arnica, anise, benzoe, cascarilla, catechu, charcoal, colocynth, cream of tartar, euphorbium, male-fern, guaiac, ginger, Peruvian bark, rhubarb, saunders, tartar emetic, turmeric, etc.

'III. Powders that keep *only* in well-stoppered bottles: Asafœtida, camphor, castoreum, cubebs, gum tragacanth, opium, squills, etc.' "

Mr. Wilder believes that tartaric acid also keeps better in paper than in glass, and offers the following practical directions, which, he says, will insure that a stock of vegetable goods will always be in good condition:

"As soon as the first warm days come in spring, or in the fore part of summer, give all your herbs, etc., including the drawers, boxes, and other things, a thorough airing and sunning. The sun, if not a scorching noon-day, will not hurt them. Do not put the herbs, etc., in tin cans or glass before they have cooled down a little; with drawers and boxes it makes no difference. Before setting them away, garble and free them from the finest dust. If you have tins, make one or two holes in the covers with a nail; with glass put a strip of pasteboard or a bit of wood or wire between the stopper and the neck.

"When you get your stock filled up from the wholesale druggist, open the parcels and give them a good drying before putting them away. When you dry the roots, give them a good overhauling with an old clothes-brush, so as to remove all the dust; roots are not hurt by a good heat. If possible, repeat the airing in the fall. As to powders, give them an airing at least once a year, and before you put those you get from the wholesale druggist away, open the parcels and spread the powders in quite a thin layer, to air-dry them. It is evident that the foregoing rules do not apply to special cases: delicately-colored flowers and strong-scented herbs and roots."

New Method of Preparing Soda from Common Salt.

H. GRÜNEBERG and J. Vorster propose the following method: Salt and alumina are mixed with water to a pulp, and the mass is dried, broken into small pieces, and treated with steam heated to dryness. Hydrochloric acid then escapes, and sodium aluminate remains behind; the latter is freed from admixtures by lixiviation and either decomposed by means of carbonic acid, or with caustic lime.

Instead of alumina, ferric oxide or any other metallic oxide may be used. If caustic potash is to be prepared, the common salt is replaced by potassium chloride.—*J. Chem. Soc.* from *Ding. Pol. J.*

Reactions of Salicylic Acid.

IN the November and December numbers of NEW REMEDIES we gave the reactions for carbolic and benzoic acids, taken from a paper by Richard Godeffroy in the *Zeitschr. des Oest. Apoth.-Vereins*, and we now quote from the same source as much as relates to the reactions of salicylic acid.

1. Salicylic acid, heated above its melting point, splits into *carbon dioxide* and *phenol:*

$$C_7H_6O_3 = CO_2 + C_6H_6O.$$

2. On distilling salicylic acid with excess of lime, *calcium carbonate* is formed and *phenol* distils over:

$$C_7H_6O_3 + CaO = Ca\,CO_3 + C_6H_6O.$$

3. If salicylic acid is heated with *amylic alcohol* (fusel-oil) under pressure at 250° C., it splits likewise into *carbon dioxide* and *phenol.*

4. *Sodium-amalgam*, acting upon an acidulated solution of salicylic acid, which must be constantly kept acid, transforms it into *salicylous* acid:

$$C_7H_6O_3 + H_2 = C_7H_6O_2 + H_2O.*$$

5. Sulphuric acid dissolves salicylic acid without color, and forms from it two isomeric *sulpho-salicylic* acids.†

6. On heating salicylic acid with dilute sulphuric acid and manganic oxide, *formic acid* is produced, which may be distilled off.

7. Dilute sulphuric acid and potassium chromate likewise convert salicylic acid into *formic* and *carbonic acids* (Kraut).

8. On heating a mixture of sulphuric acid, wood-spirit (methyl alcohol), and salicylic acid, an agreeably aromatic liquid distils over, which is *methylic salicylate.*

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* Sodium-amalgam in contact with water takes oxygen from the latter to oxidize the sodium, and hydrogen is given off; the latter being in a nascent condition, *reduces* the salicylic acid by taking from it a portion of its oxygen to form water.

† Ira Remsen, *Sill. Journ.*, 6.

9. Concentrated nitric acid converts salicylic acid already at the common temperature into *nitrosalicylic acid*, $C_7H_5(NO_2)O_3$; dilute nitric acid produces the same result by heating.

10. Fuming nitric, or a mixture of concentrated nitric and sulphuric acids, converts salicylic acid, under violent reaction, into *picric acid*, $C_6H_3(NO_2)_3O$, and *carbonic acid*.

11. Chlorine and bromine produce *substitution-products*.

12. Iodine acts upon a watery solution of the acid only when heated; if melted with dry salicylic acid, it produces *iodized substitution-products* and a red amorphous body.

13. Warm hydrochloric acid dissolves considerable quantities of salicylic acid; on cooling or on dilution with water it separates again in brilliant white, fine needles (Godeffroy).

14. Potassium chlorate and hydrochloric acid convert it into *chloranil* (tetrachlorchinon), $C_6Cl_4O_2$.

15. On heating salicylic with aqueous hydriodic acid to 280° C., *phenylic ether* and *carbonic acid* are formed.

16. On distilling it with phosphorus penta-chloride, *chlorosalicylchloride*, $C_7H_4Cl_2O$ is formed.

17. If phosphorus trichloride be added to a mixture of salicylic acid and anilin, *salicylanilide* $C_6H_5NH(C_7H_5O_2)$ is produced.

18. Iodine and mercuric oxide acting on salicylic acid produce *iodized substitution-products*.*

19. On mixing salicylic acid (3 mol.) with glucose (1 mol.), pouring over them a large excess of concentrated sulphuric acid, and gently warming, a fine blood-red color is produced; this color disappears after a while, and the mass turns brown and finally black.†

20. Caustic potassa solution dissolves salicylic acid readily; the solution soon turns brown in the air.

21. Watery solution of salicylic acid and its salts is colored intensely violet by ferric salts. This reaction is so delicate that Aug. Vogel ‡ has proposed it as a substitute for alkaline sulphocyanides as reagent for ferric compounds. In strongly acid solutions, however, this reaction does not take place. H. Weiske employs it as an indicator in alkalimetry.§

On evaporating the intensely violet solution containing salicylic acid and a ferric salt to dryness, the color disappears entirely; but the least quantity of water restores it (Godeffroy).

22. Salicylic acid mixed with cupric sulphate and caustic soda solution produces a solution of an intensely bluish green color, from which even a large excess of alkali fails to precipitate any cupric oxide.‖

23. Solution of sodium salicylate forms a grass-green liquid with cupric sulphate solution.*

24. Silver nitrate produces a white precipitate in solutions of alkaline salicylates; but no precipitate in solution of salicylic acid.

25. Lead acetate behaves like the preceding.

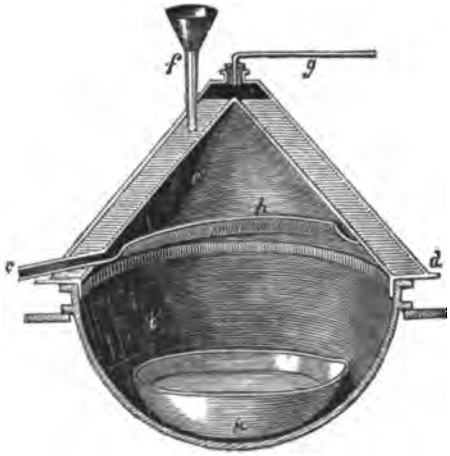
26. On mixing a hot saccharated solution of simple calcium salicylate, $Ca(C_7H_5O_3)_2$, obtained from calcium carbonate and aqueous solution of the acid, with a boiling solution of caustic lime in saccharine water, a heavy crystalline precipitate of so-called *neutral calcium salicylate*, $CaC_7H_4O_3$, almost insoluble in water, is produced.†

27. If a solution of salicylic acid is boiled with a solution of potassium ferrocyanide, *hydrocyanic acid* is produced, and the liquid becomes turbid. This reaction is very delicate, and permits the detection of very small quantities of salicylic by means of the reagents for hydrocyanic acid (Godeffroy).

28. On boiling a solution of salicylic acid with a solution of potassium permanganate, the characteristic color of the latter is immediately destroyed, and *carbonic acid*, *phenol*, and *brown hydrated manganic oxide* are produced.

A Vapor Condenser.

THE annexed cut, which represents an apparatus by no means new, but not so well known as it deserves, almost explains itself. It is intended for the recovery by slow distillation of alcohol, ether, or other volatile liquids from solutions which have to be evaporated slowly, either to produce a crop of crystals or for other causes. The apparatus consists of a tinned-iron or copper kettle, into which fits a hood with double walls, the space between which is kept filled by means of the funnel *f* with cold water, the excess of the latter flowing off through *g*. Along the inner surface of the hood there is attached a gutter sloping downwards towards the outlet-pipe *c*, which receives the condensed vapors, and carries them into the receiver.



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[*] P. Weselsky, *Wien. Ber.*, 69, ii., 832.

[†] T. L. Phipson, *Ch. News*, 28, 13.

[‡] *Pharm. Zeit. f. Russl.*, 1876, 398, fr. *Neu. Rep. f. Pharm.*

[§] W. Weith, *Ber. d. Deutsch. Chem. Ges.*, 1866, 342. See NEW REM., v., 137.

[‖] NEW REM., v., 298, fr. *Zeit. f. Anal. Chem.*

[*] Hager, *Pharm. Centralh.*

[†] Limpricht, *Organ. Chem.*, 1862, 904.

Where water-pressure is available, the funnel *f* may advantageously be replaced by a tube soldered into the outer wall of the hood near the bottom; a rubber hose may be attached to this, and more perfect condensation is thereby effected. The space between kettle and hood must of course be made air-tight. The application of heat may be effected in various ways, to suit the volatility of the liquid or the facilities of the operator.

In absence of such an apparatus, an ordinary still may be used. We are in the habit of using a quantity of ordinary glycerine, which is placed into the still, and the vessel containing the liquid to be evaporated is placed partially into it. The head of the still having been connected with the condenser, a very gentle heat will cause the slow volatilization of the liquid; when the operation is finished, the glycerine is removed, to be used for the same purpose on another occasion.

A Method of Detecting and Estimating Castor and other Fixed Oils in Balsam Copaiba.*

BY DR. MUTER.

THIS oleo-resin, commonly but wrongly termed a balsam, has been said in books for many years back to be subject to admixture with fixed oils, especially castor oil. The British Pharmacopœia furnishes a qualitative method of examination, but the tests are in practice totally insufficient, as the exact degree of rectification of the benzole (an important point) is not stated, and the difference between a pure balsam stain and that with a small percentage of oil is very slight, unless the two are observed side by side. The other methods which have been proposed may be summarized as follows:

1. Pure balsam gives a translucent, and not an opaque emulsion, with strong solution of ammonia.
2. Pure balsam, if boiled with water for some hours, leaves a tenacious resin.
3. The specific gravity.

The latter test is entirely fallacious, owing to the great variation in commercial samples; and the others, though possibly characteristic with large admixtures, fail with anything under 20 per cent.

Observing the close affinity between copaivic and pinic acids, it struck me, that advantage might be taken of the difference of solubility of the sodium soaps in certain menstrua. A very good solvent for sodium pinate has been discovered by M. Barfoëd to be a mixture of five parts by volume of absolute ether and one part absolute alcohol, which, moreover, only dissolves sodium oleate to an exact extent corresponding to 1 in 1,000. I will not occupy space by detailing at length the numerous experiments on a number of samples of balsam, varying in age and color, from every known commercial source; but the whole thing ended in the certain conclusion that besides the essential oil (which is dissipated in the process of analysis), good commercial balsam contains only copaivic acid, which forms a sodium salt, instantly soluble in ether-alcohol mixture, and a little altered resin not so readily saponifiable, forming a salt only slowly soluble.

The amount of this second resin I have found to vary slightly, and, in old samples, especially Maranham balsam, it may sometimes amount to five per cent., although usually really less.

Going upon the principle that, in performing any official analysis, the lowest commercial standard should be taken, I have adopted six per cent. as the highest possible quantity of second resin ever existing in any sample of balsam still having a trace of odor remaining. This wide standard may sometimes lead to an under-estimation of the oil by two or three per cent., but renders any over-estimation impossible.

The actual process I employ is as follows: 3 to 4 grammes of the sample are weighed into a clean, dry flask, and saponified on the water-bath with 50 c.c. of alcohol and lumps of caustic soda weighing not less than 5 grammes. When all is dissolved, water is added, and the whole washed into a half-pint basin so as to nearly fill it, and evaporated to 100 c.c. over a low gas flame Dilute sulphuric acid is added till the whole just becomes permanently turbid, and then solution of caustic soda is dropped in till it *just clears* again. By this means a solution is obtained with least possible excess of alkali, and with a good amount of sodium sulphate. The whole is now evaporated to *perfect* dryness* on the water-bath, stirring towards the end, so that the sulphate may mix with the soaps and produce an easily pulverulent residue. The residue is removed from the basin into a small wide-mouth stoppered bottle, and treated with 70 c.c. of ether-alcohol and well shaken up.

As soon as it is fairly settled, the fluid is filtered off through a *quick* filter, and this is repeated with two successive quantities of 70 c.c., making 210 c.c. in all of the solvent used. The residue in the bottle and on the filter now consists of sodium oleate and sulphate if the balsam be impure, and of the latter only if pure, with a little trace of the insoluble resin-soap already referred to. The contents of the bottle and filter are dissolved in warm water, and after heating till all smell of ether is gone, the whole is boiled, freely acidulated with hydrochloric acid, and set to cool. If, when cold, nothing but a few specks of brown resin should rise to the surface, the balsam is pure; but if an oily layer is formed it is adulterated, and the smell of the separated oleic acid will at once determine whether it is actually castor-oil or not. In the case of the presence of oil, two grammes of pure and dry white wax are added, and the whole heated till the wax melts with the oleic acid. On cooling, a solid cake is formed, which is detached from the side of the beaker, and the fluid below passed through a filter. The cake is once more melted in water, cooled, detached, dried by gentle pressure in blotting paper, put into the water oven in a weighed platinum dish till dry, and then weighed, and the weight of the wax used deducted. The beaker, filter and rod etc., used are, if at all dirty, dried, extracted with ether, and the residue left after evaporation weighed and added to the total.

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* From the *Analyst*, 1876, 160.

* The best way to insure *absolute dryness* is to moisten the apparently dry residue with a few drops of absolute alcohol, and again to dry.

The calculation is performed as follows: To the weight in grammes found, add 0.20 for loss of oleic acid in solvent and then say:

$$95 : 100 = \text{total oleic acid} : x.$$[*]

and from the total found deduct six per cent. for possible altered resin in the balsam.

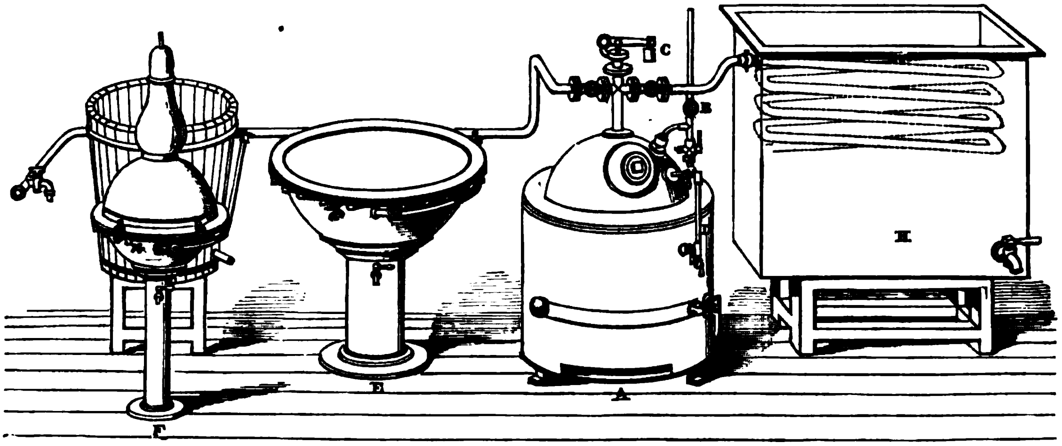
In conclusion, I may say that the process is in practice very simple, and for all ordinary purposes, if the beaker be well scraped out, the weight of the main cake may be taken as sufficient to give results true within three per cent. *below* the real amount, which is accurate enough for public purposes, and saves time and the expense of extra ether. Unless oil actually *floats, and remains, on cooling, in drops*, after adding the hydrochloric acid, the sample may be passed as good.

Pharmaceutical Apparatus.

In a late number of the *Pharmaceutical Journal and Transactions*, Mr. Octavius Corder published a drawing of a pharmaceutical apparatus adapted to the uses of retail dealers who desire to make "all such pharmaceutical preparations as may reasonably be expected by a chemist of the present day." The following is Mr. Corder's description of the apparatus:

"A is a copper boiler holding about twelve gallons, fixed in a wrought-iron jacket and heated by a ring gas-burner. I used copper for the boiler, because, being made thinner than iron, the water is brought to a boil much more rapidly, it does not foul so soon, and is altogether better adapted for the purpose. I chose gas as a heating power, not that it was so cheap as coal, but from its being clean, free from smoke, and at once lighted, lowered, or put out, as occasion may require.

"The boiler is supplied with water direct from the main by merely turning on the tap, B. The boiler is provided with steam-gauge, C, which blows off at five pounds pressure; also, with a water-gauge, D, and with a suitable arrangement for blowing out the boiler whenever it becomes foul by deposit of lime, etc. H is a galvanized iron tank, provided with a tin worm, so that all waste steam may be condensed as distilled water; those who are accustomed to use distilled water for all dispensing purposes, making tinctures, infusions, decoctions—indeed, all pharmaceutical preparations, will fully appreciate this part of the arrangement. The whole of the pans, etc., being copper tinned, all the condensed steam is available as distilled water. The pan, E, holds sixteen gallons, and is adapted for decoctions, etc.; its evaporating power is about two gallons per hour. The pan, F, holds six gallons, and being fitted with a suitable head and worm, is used for all the distilled medicated waters, such as dill, cinnamon, peppermint, etc., also for recovering the spirit from ext. colocynth and such like preparations. It distils about one gallon per hour."



The original drawing includes an earthenware still for the manufacture of aromatic spirits of ammonia only. As the United States Pharmacopœia directs this preparation to be made by mixing its ingredients simply, and not by distillation, we have left it out in our copy of the drawing.

"The amount of gas used is about fifty feet per hour, costing somewhat less than three shillings; but, by saving the condensed steam, sufficient distilled water will be obtained to more than pay the heating. If the full steam of the boiler is turned into the worm, H, about four gallons of water per hour are obtained. The whole of the work, as far as the boiler, gas-burner, pans, and pipe-fittings, were made for me by Messrs. Pontifex and Wood, Farringdon Works, Shoe Lane, who have not only paid every attention to what I required, but have also executed it in a substantial and most satisfactory manner. I would add that it is well to cover the top of the boiler, and the sides of the pans and pipes, with felt, which effectually prevents a considerable loss of heat by radiation."

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[*] In the original this proportion is not clearly stated, but it is evident that the author meant it as given above. The Dutch journal "*De Pharmaceut*," in its number of Dec. 20, comments upon this method and calculation by declaring it rather liable to uncertainty, although Dr. Muter's proof-analyses would show its great reliability; besides, the general addition of 0.2 in every case, and the assumption of 95% oleic acid in any oil, may lead to errors.

THERAPEUTICS.

On the Effects of Chlorhydrate of Pilocarpine.

Dr. Adolph Weber of Darmstadt states in a communication to the *Centralblatt f. d. Med. Wissenschaften*,* that he had been for some time in the habit of using an infusion of jaborandi in his ophthalmological practice with great success, and that he lately received a preparation labeled "Pilocarpium muriaticum" from E. Merck, which is supposed to be the alkaloid of jaborandi. It was a white, transparent, crystalline salt, of a slightly bitter, puckering taste, and soluble in an equal weight of water to a colorless solution. It was obtained from the so-called Pernambuco jaborandi, while the Brazilian variety is said to be devoid of alkaloid. The yield from 100 kilos of jaborandi is 70 grammes of the muriate *in crystals;* † a portion remains in the mother-liquid and cannot be recovered, and another portion is lost by decomposition. Merck estimated the loss from both of these causes at 30 to 40 grammes per 100 kilos, which statement, however, appears to the author somewhat doubtful, because in this case the hypodermic injection of the pure alkaloid would only be about of the same effect as the infusion of an equivalent quantity of the leaves, contrary to the well-established fact that alkaloids act in proportionally much smaller doses than an *equivalent* quantity of the crude drug.

Dr. Weber's experience has proved to him that the effects of one cub. centm. of a two per cent. solution of chlorhydrate (muriate) of pilocarpine are equal to an infusion of five gm. jaborandi leaves in 120 gm. water.

The experiments which he made with this alkaloidal salt confirm the statements of other practitioners as to the peculiar effects of jaborandi, namely, production of profuse salivation and perspiration.

The first and most constant symptom which appears even after the administration of the smallest doses (0.5 c.c. or about 8 min. of a ½ per cent. solution), is *increased secretion of saliva;* it begins three to five minutes after the subcutaneous injection and lasts generally several hours longer than the second symptom, namely, *profuse perspiration.* The average dose to produce the latter promptly is 1 c.c. (about 16 min.) of a 2 per cent. solution, equivalent to an infusion of 5 gm. (about 77 grs.) of the leaves. The duration of this diaphoretic effect is about one hour, if the patient remain out of bed, but may be prolonged to two or three hours by placing the patient between blankets. The increase of *pulsation* is about five to ten beats per minute, but increase of *temperature* is rarely over 0.5 to 1°. The sensation of *depression* which has been observed after the administration of an infusion of jaborandi is very transient after the subcutaneous injection of pilocarpine, and nausea (never, however, vomiting) occurs only if the saliva is not all ejected. *Contraction of the pupil* makes its appearance later, but it outlasts all the other effects by about twelve hours. The average duration of the effects upon the eye of one drop of a two per cent. solution are: commencement of contraction after ten minutes; maximum reached after twenty to thirty minutes; duration of maximum contraction three hours; duration of general noticeable contraction twenty-four hours. The *loss of weight* after a profuse salivation lasting two or three hours, is on an average two kilogrammes; and in one case a loss of even four kilos was observed.

The chlorhydrate of pilocarpine was used by Dr. Weber chiefly on account of its great power—superior to any other remedy—of inducing change and motion of organic matter in the body; it was never resorted to on account of its myotic effect, for which latter eserine is abundantly sufficient. Now, although it would lead too far, in the opinion of Dr. Weber, to suggest all possible diseases in which this remedy might be indicated, he desires particularly to draw attention to its use in cases of opacity of the corpus vitreum, after chronic irido-choroiditis: in such cases a topical application, repeated ten or twelve times, has been found to produce remarkably rapid recovery. He also mentions the case of a child of three years, suffering from croup, upon which tracheotomy had been performed, and which was in the last stage of asphyxia, from pulmonary œdema, five days after the operation. After the hypodermic administration of a two per cent. solution—the child being placed on its side, with depressed head—a profuse perspiration and salivation set in, at the cessation of which all symptoms of asphyxia had disappeared, and perfect recovery took place after three weeks.

The injections are painless and do not produce any bad local effects. The solution of the alkaloidal salt, if carefully kept, remains entirely clear and effective for a long time.

Sodium Sulphate as an Antiseptic.

Dr. Minnich (*Gaz. des Hôpitaux*) proposes the use of sodium sulphate, which he prefers to both carbolic and salicylic acids, not only for surgical dressings, but also as an excellent application in erysipelas. Aside from its cheapness, it has various advantages not possessed by the other remedies. He applies it in the same shape as Lister's dressings. The solution usually employed contains: 1 part of sodium sulphate, 9 parts of water, and 1 part of glycerine. A large number of successful cases have proved its efficiency.

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* 1876, No. 44, Oct 28.

† Compare the paper of Mr. Chas. T. Kingzett, on p. 359 of our last volume; and Mr. A. W. Gerrard's paper on p. 331, *ibid.*

Oxygen in Hydrophobia.

THE following case of apparently successful treatment of hydrophobia is reported in the *Allgemeine Medicinische Central-Zeitung:* A girl of twelve years was bitten in the hand by a rabid dog. The wound bled but little, and extended into the cellular tissue. It was immediately cauterized with nitrate of silver, and healed almost completely within seven days. About this time the child was seized with an unusual irritability. On the seventeenth day distressing dyspnœa set in, with free inspiration, but groaning and spasmodic expiration, and swallowing was almost impossible. The pulse was accelerated, the flexor muscles of the fingers were contracted, and no evacuation of either rectum or bladder took place for twenty-four hours. A quantity of about three cubic feet of oxygen gas was administered by inhalation, which afforded almost immediate relief, and produced complete cessation of the symptoms within two hours and a half. On the next day the child had another attack, with clonic cramps of the muscles of the back and extremities, dyspnœa, and complete coma, all of which symptoms were removed after forty-five minutes by the administration of oxygen. Slight attacks of dyspnœa recurring during the next ten days were treated in the same manner, and camphor monobromide was administered for three weeks more.

The Effect of Mixed Cinchona Alkaloids.

As a supplement to our late article* on the manufacture of a cheap cinchona-febrifuge in India, we have to state that reports have been quite lately received from a number of public hospitals in India, where the mixed alkaloids had been subjected to a series of systematic trials, which characterize the preparation as possessed of febrifuge properties inferior to quinia, and frequently producing gastric disturbances. It is quite likely that its manufacture will be discontinued, at least for local use. But we would imagine that the mixed alkaloids could be manufactured on the spot and exported as such to England or this country, to be worked up and separated by alkaloid-manufacturers, as the saving in freight would be a very considerable item.

Chronic Digitalis Poisoning.

BÄLZ describes in the *Archiv für Heilkunde*, vol. xvii., the case of a woman suffering from mitral stenosis in a high degree, who had so long accustomed herself to the use of large doses of digitalis, that, when deprived of the medicine, she fell into a most miserable condition, from which she was relieved, as by magic, by the use of the drug. She used every morning and evening 0.3 grammes of digitalis, and had taken more than 800 grammes in seven years. The case presents a very strong resemblance to the results of long-continued use of morphia.—*Centralblatt für die Medicinischen Wissenschaften*, November 4.

Alleged Failure of Salicylic Acid.

AT the meeting of the Société de Thérapeutique, October 11, 1876, Dr. Martineau reported that neither in typhoid fever nor in articular rheumatism did he obtain any influence, either upon the temperature or the pulse, by the use of salicylic acid. This was confirmed by M. Dujardin-Beaumetz, who thought, however, that it calmed the articular pains.

Xanthium Spinosum and Hydrophobia.

AT the meeting of the Paris Société de Pharmacie, on October 4th, M. Yvon described to the Society some experiments that had been made in the school at Alfort, by MM. Trasbot and Nocard, respecting the alleged prophylactic action of *Xanthium spinosum* against hydrophobia. The results had been entirely negative.

Use of Phosphorus in Leucocythæmia and Allied Diseases.

IN view of the extremely intractable nature of these affections, it may be of interest to direct the attention of our medical readers to the discussion which recently occurred in the Clinical Society of London, on the effect of phosphorus upon them. Although the number of cases cited by the various speakers was not large, the success which attended the use of the remedy in a few of them warrants its trial. The report of the discussion may be found in the *British Medical Journal* of Dec. 16th.

Salicylate of Soda in Gout and Neuralgia.

THE statements that have recently been made by several writers, that salicylic acid and salicylate of soda, when given in acute rheumatism, relieve the pain more certainly than the swelling, indicate the trial of these substances in affections where pain may be a chief characteristic. Dr. C. Cunzi (*Deutsche Zeitschr. für prakt. Med.*) recommends salicylate of soda as a means of rapidly relieving the pain of gout. In two cases of gout of the foot a single dose of one drachm was followed, in three hours, by complete cessation of the pain; the swelling, however, remained ten days longer. Dr. L. Hoffmann (*Berliner Klin. Woch.*) has found it remarkably efficacious in gout of the hands and feet, and relates successful cases of its use in sciatica, tic doloureux, and intercostal neuralgia. He recommends half a gramme to be taken in a gelatine capsule every hour.—*Br. Med. Jour.*

Treating Blisters by Osmosis.

M. UNGERER recently saw an extensive scald, which had for twelve hours been treated with cold water without relief from the agonizing pain, or reduction of the swelling. The experiment of immersing the limb in a saturated solution of salt was followed by most surprising relief. The abatement of the pain was immediate, and in four hours both the pain and swelling were gone. The next day the hand differed from the other only by a very slight swelling and redness.

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* NEW REMEDIES, v., 356.

The Use of Santonine in Epilepsy.

An English physician who writes "L. F. P. S. G., L. A. A. Barnsley," after his name, and does it through the courtesy of the editor of the *British Med. Jour.*, reports two patients, aged respectively ten and nineteen, who were relieved of their epileptic attacks by the taking of santonine in doses of one to five grains daily for several weeks.

Large Doses of Ergot.

At the meeting of the American Gynæcological Society, Dr. Drysdale, of Philadelphia, in speaking of the employment of large doses of ergot in the treatment of uterine fibroids, stated that he had given half-ounce doses of Squibb's fluid extract three times a day for more than a year without producing any injurious effects. When the pain caused by the uterine contractions became too severe, the drug was discontinued until the pain subsided.

Nitric Acid for Hoarseness.

Dr. W. Handsel Griffiths says that a few drops of nitric acid in a glass of sweetened water, a couple of times daily, will be found an excellent remedy for the hoarseness of singers. One of the largest fees ever received by him—so he says—was for this prescription.

Agents Affecting the Secretion of the Bile.

Professor Rutherford and M. Vignall have continued their observations on cholagogue drugs. They employed euonymin, sanguinarin, iridin, leptandrin, ipecacuanha, colocynth, and jalap. The animals used for experiment were invariably dogs, and each experiment lasted an entire day. The various substances were always injected directly into the duodenum. 1. In regard to euonymin, it was found that five grains mixed with boiling water powerfully stimulated the liver. It is an active purgative in the human subject. 2. In regard to sanguinarin, three grains, and one grain in two different experiments, mingled with a little bile, powerfully stimulated the liver, but rendered the bile more watery, though more biliary matter was secreted in a given time. The secretion of the intestinal glands was slightly increased. 3. In regard to iridin, five grains mixed with a little bile and water very powerfully stimulated the liver. It is not so powerful as large doses (four grains) of podophyllum, but it is more powerful than euonymin. Iridin is also a decided stimulant of the intestinal glands. 4. Leptandrin is a stimulant, but only a feeble one. 5. Ipecacuanha, when given in doses of sixty grains, powerfully stimulated the liver. Even three grains had an effect on a dog weighing seventeen pounds. The bile secreted was of normal composition, as regards the biliary matter proper. No purgative effect was produced, but there was an increased secretion of mucus in the small intestine. 6. Colocynth is a hepatic stimulant of considerable power. It renders the bile more watery, but nevertheless increases the secretion of biliary matter. It is also a powerful stimulant of the intestinal glands. 7. Lastly, the results of the experiments with jalap showed that the drug is a hepatic stimulant of considerable power. It renders the bile more watery, but at the same time increases the secretion of biliary matter. Its effect on the liver is, however, far less notable than its effects on the intestinal glands.—*The Journal of Anatomy and Physiology.*

Beech-tar Creasote in the Treatment of the Expectoration of Phthisis.

Dr. Georges Daremberg has first made a chemical analysis of the sputa of phthisical patients with great care; he has shown that these sputa may contain almost as large a quantity of phosphates and chlorides as the urine, and that expectoration in these cases is one of the ways by which the products of denutrition are expelled; this expectoration, however, is not only one of the ways, but also one of the causes of this denutrition, which is indicated by precise prognostic and therapeutic data. Beech-tar creasote has been employed in France by M. Bouchard, and in five cases of advanced phthisis the results have been favorable; the expectoration has quickly stopped. From 20 to 40 centigrammes (about 3 to 6 grains) of creasote per diem were given. According to Hlasewetz and Barth, this beech-tar creasote is a combination of creasote ($C_8H_{10}O_2$) with a carburetted hydrogen.

Pain Produced by Chloral Hydrate.

Referring to the note of Dr. Herbert Morgan (a synopsis of which will be found on page 334 of New Remedies of November), W. H. De Witt, Physician to Longvine Asylum, says that in an asylum practice of five years, during which his experience with chloral hydrate, both as a hypnotic and a quieting agent, has been large, he has seen no bad effects resulting from its administration. Instances occurred in which doses of twenty to thirty grains were given every one, two, or three hours for months in succession. Many of the evils supposed to arise from the use of this drug he believes to be in great measure imaginary, or due to causes more or less obscure.—*Cincin. Lancet and Observer.*

Iron as a Reconstructive Agent.

M. Dujardin-Beaumetz is not a believer in the therapeutical virtues of iron in anæmia and chlorosis. Notwithstanding the existence of a lessened quantity of iron in the blood of anæmic and chlorotic patients, he says that this diminution is of very little consequence, being ten to twenty centigrammes at the most, of the total amount of two grammes of iron in five litres of the blood of an average-sized adult. Now, according to Boussingault, the daily food introduces into the body ten to twenty centigrammes of iron; consequently, the loss of iron may be made up by the food alone. Therefore, instead of supposing the mineral tonics to replace directly what the blood lacks, it is much easier to believe, he says, that these act in anæmia simply as stimulants; and in order to enrich the blood we should have recourse to those medicinal agents which excite nutrition.

In young girls, M. Beaumetz is much better satisfied with gymnastic exercise and hydrotherapy than with ferruginous medicines. Moreover, if the latter are oftener powerless in chlorosis, they produce harm by disturbing the digestive functions. Arsenic is more valuable than iron.—*Boston Med. & Surg. Jour.*

Lactic Acid as a Hypnotic.

On the 15th of March, Herr E. Mendel read a paper before the Medical Society of Berlin, on the Hypnotic Properties of Lactic Acid, and referring to the observations of Preyer and Lothar Meyer on this subject, he said that its effects, when administered by the mouth, either pure or in the form of the lactate of soda, were uncertain, but he had found very good results from its use in enemata in a large number of cases. The dose of lactic acid which he recommended was five to twenty grammes (75 to 300 grains) mixed with an equal quantity of lactate of soda. The use of lactic acid was especially recommended: 1. In cases of insomnia in the course of debilitating diseases, or during convalescence from them, after hemorrhages, etc. 2. As a calmative in the excitement of the insane; 3. As a remedy in certain psychoses, in regard to which its precise indications must yet be determined.

In a discussion which followed at the next meeting, Herr Senator said that he had used lactic acid, either in divided doses, two grammes (155 grains) being given in the course of a day; or in single doses of five to ten grammes in gaseous water, or as lemonade. With the first-named mode of administration no sleepiness was observed. On the other hand, a large single dose produced pure sleepiness, although lactic acid could not be compared, as regards strength or duration of action, with morphia or with chloral hydrate. There was, however, a troublesome after-effect, which had not been noticed by Herr Mendel or by Lothar Meyer—the occurrence of rheumatic pains; these he had observed twice, once in a phthisical patient, the other time in a man who had frequent attacks of muscular rheumatism. Rheumatic pains had also been observed in giving lactic acid with other objects, such as the treatment of diabetes, etc.

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RECENT PAPERS.

Liebig's Annalen der Chemie. 183, 1, 2, 3.

W. Hampe: "On Boron." [As is well known, Wöhler and Deville obtained what has been called boron-diamonds, that is, a variety of metallic boron, crystalline, of a dark brown or black color, and only inferior to the diamond in hardness. Hampe now finds that these crystals are a compound of boron and aluminium, AlB_{12}, and that the other variety of boron, which already Wöhler and Deville had found to contain aluminium (by aid of which they are prepared), contains carbon in addition to boron and aluminium.]

Gorup-Besanez: "On Ostruthin." [The root of *Imperatoria Ostruthium*, master-wort, contains several crystallizable substances, one of which, imperatorin, has been known for some time, and found to be identical with peucedanin. The other was discovered by the author a few years ago, and named ostruthin. It is odorless, nearly tasteless, insoluble in cold, nearly so in boiling water, little soluble in benzole and petroleum ether, easily soluble in alcohol or ether. The alcoholic solution is faintly *fluorescent*, but on mixing it with water it assumes a *magnificent blue fluorescence*, only comparable to solutions of æsculin.[*] It is optically inactive. By fusing it with caustic potassa it is split up into several bodies, one of which was recognized as *resorcin.*]

E. Frey: "On the Metals Calcium, Strontium, Barium, and Lithium." [In the chemical factory of Dr. Schuchardt, in Gorlitz, these metals are prepared on a much larger scale than elsewhere. Samples of them, from 2.5 to 4 gm., were exhibited at Philadelphia. *Calcium* is not of a bronze color, but looks exactly like aluminium. *Strontium* has a bright bronze color. The former is very brittle, the latter quite ductile and malleable.]

The Analyst.

November. Dr. Muter: "A Method of Detecting Castor-Oil and other Fixed Oils in Balsam Copaiva." (See p. 11.)

L'Union Pharmaceutique.

November. Da Silva Lima: "Pharmacology of Araroba or Goa Powder." [The author states that in his practice the preparations which were found to answer best were the pomade and the vinegar.] (See p. 28.)

Répertoire de Pharmacie. Nos. 20–22.

Ch. Ménière: "Artificial Coloring of Honey." (See p. 2.)

L. Portes: "Researches on Sweet Almonds." (See p. 2.)

Pharmaceutische Zeitung für Russland. No. 21.

S. Wasilewsky: "Contributions to the Medico-Legal Research for Hyoscyamus, Stramonium, and Belladonna." [The author finds that chloroform is a much better solvent of the alkaloids of these plants than benzine or ether. But chloroform cannot be used to purify, by shaking, the *acid* solutions of the alkaloids from foreign bodies, as it takes up a portion of the alkaloid. In extracting the alkaloids themselves, their solutions must be made slightly alkaline, and shaken with chloroform.]

Archiv der Pharmacie.

November. Th. Husemann: "On the Distribution of Cardiac Poisons in the Vegetable Kingdom." (See p. 3).

R. Godeffroy: "On some new Reactions for Alkaloids." [The author has examined the behavior of a number of alkaloids towards metallic chlorides, with the following results:

Solution of ferric chloride in hydrochloric acid produces, in not too dilute hydrochloric solutions of aconitia, strychnia, and veratria (and also of piperin), yellowish red precipitates.

Atropia, quinia and cinchonia likewise give precipitates, but the latter are redissolved on adding an excess of the precipitant.

Brucia, coffeia and morphia are not precipitated.

All these precipitates are compounds of 1 mol. of ferric and 2 mol. of alkaloid chloride; they are soluble in water, and, in the case of the first mentioned, can only be washed with strong hydrochloric acid.

Solution of antimony trichloride in hydrochloric acid and solution of stannous chloride produce similar precipitates. The former does not precipitate coffeia or morphia. The latter precipitates morphia, but not coffeia; and the morphia precipitate is very little soluble. Its composition is: $SnCl_2,C_{17}K_{19}NO_3HCl$.

The most sensitive of all alkaloidal reagents, however, appears to be silicotungstic acid. (See next number.)

E. Reichardt: "Black Phosphorus and Presence of Arsenic in Commercial Stick-Phosphorus." (See p. 8.)

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[*] Or so-called gelseminic acid; see this journal, v., 342.

E. Dumas: "On the Touchstone." [The true touchstone is a fossil wood, derived from a dicotyledonous plant, nearly allied to the genus *Rosthornia* Ung.]

Pharmaceutical Journal and Transactions. Nos. 335–338.

J. C. Tresh: "Solvents of Salicylic Acid." [The author, in the course of the paper, gives the following table of the solubility of the acid in potassium citrate solution:

Sal. acid	1	Citrate	.75	Water	100.
"	1	"	1.	"	50.
"	1	"	1.15	"	25.
"	1	"	1.25	"	20.
"	1	"	1.4	"	12.5
"	1	"	1.5	"	7.5

Alf. Balkwill: "The Dispensing of Copaiba Resin." (See formula, p. 28.)

Chas. T. Kingzett: "The Hygienic Influences of the Pine and Eucalyptus." [The anti-malarial powers of the pines and eucalypts is most likely due to the fact that the hydrocarbons which both contain as volatile oils are constantly being oxidized by the atmosphere into hydrogen peroxide, which is one of the most powerful disinfectants known.]

W. Dymock: "Notes on Indian Drugs." [*Suckmuniya* or Bazar scammony. That sold in Bombay is all fictitious, and said to be made at Surat.—*Canna Indica, C. lutea, C. discolor;* local name kimuski. Canna lutea is said, in the 'Bombay Flora,' to be the source of tous-les-mois, and it corresponds with it exactly; but the official canna is never prepared there.—*Mangifera Indica*, local amba; the gum is black, friable, and soluble in water.—*Garcinia* species? Canarese name: Arasina gurgi. This native gamboge appears to have been collected upon leaves, portions of which still adhere to it. It is very impure.—*Aloe* spec.? local elia. There are many qualities of aloes met with at Bombay. Excluding socotrine, the kind most worthy of notice is the *Jafferabad Aloes;* it is manufactured at a town of that name on the Kattiawar coast, belonging to the Hubshis of Jinjeera, a family of African origin. Mr. Dymock has not been able to get an authentic specimen of the plant. The drug in mass is black; it has a glossy fracture; the powder is dull yellow, and the odor powerfully aloetic and aromatic. It affords a fair yield of aloin by Histed's process. Its reactions are the same as barbaloin (aloin of Barbadoes aloes).—*Calophyllum elatum*; local, sirpoon. The gum is black and opaque; soluble in water to a yellow-brown solution, *exhibiting a strong blue fluorescence*, which is greatly increased by throwing down some of the brown coloring matter by alum. When purified in this manner, the solution instantly loses its fluorescence on addition of an acid, and regains it on addition of an alkali.*]

Alex. Bottle: "A New Mode of making Gray Powder." [Suggesting, in place of trituration, active agitation of the mercury and chalk in a wide-mouth bottle. This process is not new in this country. Dr. Ed. J. Coxe, of New Orleans, first proposed this method, called succussion, and Dr. Ed. R. Squibb modified it by adding to the ingredients about one-seventh of their weight of honey, and making the chalk into a paste with water; the saccharine matter effectually prevents oxidation.]

S. C. Betty: "Composition and Uses of a new Bismuthic Compound: Oleate of Bismuth." (See p. 7.)

J. Williams: "Note on some Reactions of the Glycerole of Nitrate of Bismuth." [Mr. Balmanno Squire having ascertained that glycerine is capable of dissolving 20 per cent. of nitrate of bismuth,† the author supplements this information by stating that caustic potash or soda, added to the glycerole diluted with water, first causes a white precipitate, which dissolves in an excess of the alkali, producing a bright, clear liquid perfectly miscible with water in all proportions. The glycerine appears to play the same role in this mixture as citric acid does in liquor bismuthi. Ammonia cannot be employed instead of potassa or soda. Ordinarily, bismuth oxide is insoluble in an excess of an alkali.]

W. Martindale: "Crystallized Hyoscyamine." [In the course of the paper the author pointed out that the so-called amorphous hyoscyamine, with which Mr. Rob. Lawson has experimented (see New Remedies, v., 240), was in reality minutely crystalline.]

J. C. Thresh: "Note an Capsaicin." [This substance, the supposed active principle of capsicum, discovered by the author, has been analyzed by Dr. Buri, Prof. Flückiger's assistant, who found figures corresponding most nearly to the formula $C_9H_{14}O_2$.]

Balmanno Squire: "Chrysophanic Acid Ointment." (See February number.)

T. F. Hanausek: "On Paraman-Resin." [The resin of *Monorobœa coccifera*, Aubl., nat. fam. Guttiferæ, native of Venezuela. In Brazil the resin is called "anani," at the Paris Exhibition it was named "résine mani en pairs," and according to Macfadyen's Flora of Jamaica, it is also called mani, manil, or hog-gum.]

Pharmaceutische Centralhalle. Nos. 44–46.

"Carrageen-Wadding." [See p. 7.]

Journal de Pharmacie et de Chimie.

September. A. Haller and E. Heckel: "On Potalia Amara." [*Potalia amara*, Aublet, is a shrub or small tree belonging to the natural family of Strychnaceæ, nat. of Guiana and Cayenne. The authors found the bark to contain a bitter principle, differing from strychnia and brucia, and producing emesis in very small doses.]

Chemical News.

S. Kern: "Production of Carbon Monosulphide." [If iron wire is digested for about six weeks in carbon disulphide, the iron abstracts one-half of the sulphur, becoming ferrous disulphide, and carbon monosulphide is formed, which is left as a reddish brown powder upon dissolving the iron disulphide in hydrochloric acid.]

C. A. Cameron: "On Mercuric Iodate." [This salt is precipitated when alkaline iodates or iodic acid are added to mercuric acetate or nitrate, but not when added to the chloride. It is soluble in alkaline chlorides, bromides, iodides, cyanides and cyanates; in dilute solutions of manganese and zinc chlorides; in sodium hyposulphite and in hydrochloric acid. It is insoluble in solutions of potassa, soda, ammonia, sodium sulphite, borax, corrosive sublimate, the officinal sodium phosphate, alkaline iodates, chlorates and bromates, and in acetic, fluoric and silicofluoric acids.]

Berichte der Deutschen Chemischen Gesellschaft. Nos. 16–17.

Ed. Lippmann and Josef Hawliczek: "On Artificial Oil of Bitter Almonds." [The authors have made exhaustive researches on the identity of the artificial with the natural oil, and have found the two oils absolutely identical, physically as well as chemically.]

E. v. Gerichten: "On Apiol." [During the preparation of oil of parsley by distilling the seeds with water, there is obtained, besides the peculiar terpene, a body which separates in fine needles, and is known as parsley-camphor or apiol. Homolle and Joret apply the name of apiol to a mixture of various bodies, which they obtained as a greenish brown oil, by extracting parsley-seed with alcohol and ether, and treating with lead oxide. They recommended this apiol as a substitute for quinia. The name *apiol* may be retained, but should be restricted to denote the crystalline ethereal oil, that is, the parsley-camphor. This body may be extracted directly from the seeds by exhausting them with alcohol, distilling off the latter and digesting the residue with ether; apiol is dissolved, while apiin remains behind. Pure apiol forms very long, white, brittle needles of a faint parsley odor; its melting point is 30° C., boiling point 300° C., and spec. gravity 1.015. Probable formula $C_{12}H_{14}O_4$.]

B. Tollens: "On an Improvement of Bunsen's Filter-pump." [The principle and use of this apparatus may be presumed to be known to our readers. In order to remedy the drawback of not being able to observe the flow of water on first starting the apparatus, the author has modified this portion of the apparatus, by carrying the water-pipe from above downwards, and using the lateral tube as air-exhauster.]

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* Compare also the properties of fluoresceïne (aniline-derivative), mentioned on p. 18.

† See New Rem., v., 361.

Same: "On the Noxiousness of some Rubber Goods." [Attention has repeatedly been drawn to the noxious properties of rubber articles which contained admixtures of injurious substances, especially zinc oxide. This substance used to be a common constituent in rubber nipples, or in the caps of feeding-bottles, but has not been used of late years in consequence of the evil effects produced by it. But other rubber articles, such as children's toys or dolls, frequently contain large quantities of it. The author found in one doll 60.58 per cent., and in another 57.68 per cent. of zinc oxide, the presence of which was suspected by the effects produced upon children who had kept them in protracted contact with their mouths.]

Same: "Constant Generator of Chlorine, Ammonia, and Hydrochloric Acid." (See p. 6.)

Fr. Krüger: "Fluorescein as Indicator for Acids and Alkalies." [According to the author, this new aniline compound exceeds all other substances in sensitiveness for acids or alkalies. The least trace of acid destroys immediately all trace of the magnificent fluorescence, while free alkali at once restores it. *It is entirely indifferent towards carbonic acid.* But it is inapplicable in presence of free acetic acid, which does not destroy its fluorescence; nor when finely divided white precipitates are suspended in the liquid, as the fluorescence is then masked, and the precipitate would have to be allowed to settle before employing the reagent.]

Jul. Jobst: "On Coto-Barks and their Crystallizable Constituents." [A new supply of coto-bark, which the author obtained lately (see our December number, p. 360), yielded an alkaloid apparently identical with true cotoïn in its external characteristics, but differing from it in its chemical behavior. The name *paracotoïn* is proposed for this body. In addition to it, the new bark contains other crystallizable principles in smaller quantity. This paracotoïn is devoid of the biting taste of true coto-bark, does not strike a red color with strong nitric acid, but merely forms a yellow solution, and basic lead acetate solution does not produce a precipitate. Complaints directed to the exporting-house in Bolivia elicited the reply that this invoice represented the best coto-bark in the Bolivian market, and was obtained from the banks of the river Mapiri. Dr. Burkart made some experiments with paracotoïn, at the request of the author, and found that this body possesses nearly the same specific anti-diarrhœic properties as true cotoïn, being only very slightly inferior to it, owing, no doubt, to its difficult solubility. Coto-bark appears to occur in different qualities, like cinchona barks; some probably contain an excess of cotoïn, others of paracotoïn.]

Victor Meyer: "Apparatus to Demonstrate the Increase of Weight during the Burning of a Candle." [In order to demonstrate the increase of weight resulting from the union of atmospheric oxygen with the constituents of a candle, the author has constructed a very simple apparatus. A piece of a candle, about 45 mm. long, is placed upon each scale-pan of a balance; over each candle hangs a glass cylinder filled with large pieces of caustic soda resting on a wire diaphragm. After both sides have been brought into equilibrium by proper adjustment of weights, the candle on *one* of the scale-pans is lighted, and in a few minutes already there will be noticed a considerable increase of weight on this side, owing to the absorption of water and carbonic acid by the soda. The candle and soda cylinder on the other side are placed there to obviate the supposition that the increase of weight on the side of the burning candle was owing to abstraction of water and carbonic acid from the air.]

W. R. Hodgkinson and W. C. Sorby find that by heating colorless hairs and feathers with dilute sulphuric acid, they dissolve completely. But by treating black hair or feathers in the same manner, a black substance remains behind, which was found to have the composition $C_{18}H_{16}N_2O_8$, and which is also met with in dark red and brown hair, and in iridescent feathers.

Amer. Journal of Pharmacy.

November, December. E. L. Boerner: "On the Seeds of Ricinus Communis." [The author examined the marc left after the manufacture of the oil. In the course of his experiments he found that carbon disulphide, ether, and gasoline still extracted some oil from the marc, the first mentioned as much as 11.77 per cent. A portion of exhausted marc was macerated with water until decomposed, and then distilled; the distillate was found to contain butyric acid. A crystalline substance was likewise obtained, which was proved not to be an alkaloid.]

N. Rogers: "Sium Latifolium." [Contains an alkaloid probably analogous to pastinacina, one indifferent and two acid resins, sugar, albumen, gum, and salts.]

Ph. H. Dilg: "On the Root of Euphorbia Ipecacuanha." [This officinal drug is unobtainable in the market. Instead of it, *Gillenia stipulacea* is usually supplied. It should be dropped from the U. S. Ph.]

R. V. Mattison: "Preparations of Malt." [Coarsely ground, properly malted barley, is macerated in a wooden tub with water at a temperature of 168°–172° F. About fourteen gallons of water are used for half a bushel of malt. During the maceration, which lasts three or four hours, the temperature should not fall below 150° F. The solution or wort is then run off, the barley washed with a spray of hot water, and the whole of the liquid transferred to capsules or copper kettles, to be evaporated on a water-bath. The utmost care must be taken to have all vessels scrupulously clean. A mixture of extract of malt and cod-liver oil combines the nutritive value of the latter with the assimilating properties of the former. The author also states that a mixture of equal parts of cod-liver oil and extract of malt is pleasant to take, permanent, and may be mixed with water without separating the oil.]

Pharm. Centralhalle. Nos. 35–40.

Composition of Secret or Patent Remedies.—From this list, comprising about 160 nostrums, which have been examined since Sept., 1874, we select those stated to occur in our own market, or to be exported from this country:

Borwick's Baking Powder is a wrongly-adjusted effervescing powder, mixed with Indian meal. (Gaedike.)

Johanna Gerlitz's Bitters (Philadelphia): caraway, fennel, lily of the valley (root), absinth, wild cherry bark, orange peel, lavender, alcohol, and water.

Radcliffe's Great Remedy; Seven Seals, or Golden Wonder: 4 gm. ether, 6 gm. chloroform, 0.4 gm. camphor or camphor-like oil, 2 gm. oil of peppermint, 35 gm. tinct. capsici, 50 gm. alcohol. (Hager.)

Arnal's Harlem Oil: equal parts of the oils of juniper-wood and juniper-berries. (Vial.)

W. Hollon's Remedy for Headache: ammoniacal spirituous extract of gentian, with aromatics, potassium bromide, and tincture of lupulin.

W. Taylor's Remedy for Cramps and Epilepsy: potassium bromide, ammonium bromide, extract of valerian, rum, and water.

Radway's Regulating Pills: 0.5 gm. gamboge, 2 gm. aloes, 1 gm. jalap, 0.6 gm. of an indifferent powder in 30 pills. (Hager.)

A remedy for incontinence of urine is mentioned, which consists of a vial of almond oil, to be used externally, as an embrocation of the pubes; the other was found to contain equal parts of "day-urine" and dilute alcohol! The manufacturer afterwards declared this analysis incorrect, and gave the composition: water, alcohol, and 0.1–0.2 gm. of extr. belladonnæ for every 50 gm. of vehicle.

Schelenz: "Control in the Delivery of Medicines." [In order to diminish still further the chances of a possible mistake in delivering medicines ordered on prescriptions, to customers, the author has had wood-clamps made with large numbers, each corresponding with tin-checks, bearing the same number and the name of the firm. The prescription is placed into the clamp, and the check delivered to the customer, who receives the medicine on the delivery there-of.]

G. Heil: "Examination of a Spurious Bees-wax." (See November number.)

J. Volhard: "New Method of Silver-Titration." (See November number.)

NEW REMEDIES.

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EDITORIAL.

THE movement among the physicians of New York City, in favor of the use of the metric system in prescriptions appears to be growing, the largest number of its advocates being among the younger men, as might be expected. There is reason for thinking, however, that the system would be used even more generally if physicians could be assured that apothecaries had provided themselves with the necessary weights; and we are glad to report that an effort is being made to have one of our leading scale-makers undertake the manufacture of sets of metric weights which will not only be reliable, but so moderate in price that apothecaries need not hesitate to purchase them for fear of investing in a thing which they may rarely be called upon to use. Whether the metric system is or is not adopted, however, the editorial articles which appeared in recent numbers of the *Medical Record* (Dec. 9th, 16th, 23d, and 30th), a quotation from which may be found among our News Items, show that some improvement is urgently demanded in the quality of the weights in use.

IN commencing the VI. volume of NEW REMEDIES, we have made a few changes and additions, which we hope will improve the character of the journal and render it more valuable in every respect. The introduction of illustrations will enable us to publish articles of practical interest which we were formerly obliged to pass over, or simply refer to; and to accomplish this without lessening the amount of text, the letter on the "New York Drug Market" has been printed as an extra.

With few exceptions we have heretofore made little effort to secure original communications, believing that the interests of the greatest number of readers could be served by making each issue contain, as far as possible, a résumé of the matter to be found in our exchanges. The rapid and considerable increase in the number of its readers, however, renders NEW REMEDIES one of the best means for reaching the attention of the class for whom it is published, and while still making the abstracts of articles in other journals the chief feature of this one, we have determined to admit some proportion of original matter.

ORIGINAL COMMUNICATIONS.

JAPANESE MEDICINE AND PHARMACY.

THE peculiar geographical position of Japan, together with its intimate and for many centuries exclusive intercourse with China, have been the means of transplanting many branches of knowledge and various useful arts from the latter country to the former; among these, Japanese medicine is entirely based upon Chinese authorities, and although European science, thanks to the enlightened liberality of the present government, is gradually making progress, the bulk of the native practitioners still adhere to the old tenets.

Tradition speaks of a time when there existed a native Japanese system of medicine, but no traces have remained of it, and for more than 2000 years all medical and pharmaceutical knowledge of the Japanese has been derived from Chinese sources. The latter, contrary to what might be expected from the copiousness of literature in other branches, are exceedingly few and scant, and consist mainly of these two works:

1. The *Shookánron* ("Doctrine of the Febrile Diseases"), which was composed about 350 B. C., by Tchoochúke, the Chinese Hippocrates.
2. The *Kinki* ("Golden Chest"), which treats of all diseases excepting fevers.

But it must not be supposed that the Japanese practitioners were exempt from the natural tendency to opposition, which in more civilized countries has showered upon us a harvest of "pathists" too long to enumerate; on the contrary, in olden times already there arose a schism between the followers of the fever-theory of the Shookánron,[*] and the champions of the other school, which recognized both works. The former, who were specialists in our sense of the word, maintained that the treatment of all diseases, febrile or otherwise, may be learned from their authority, while the latter, being more progressive or liberal, acknowledged the authority of both, and even ascribed the authorship of the Kinki to Tchoochúke himself.

Besides these two principal works, the liberal school recommend a number of other Chinese books, for the study of medicine, the importance or authority of which is considered to increase with their age. The principal ones are:

1. *Sómon*, that is, "Catechism of Soko," an omniscient deity, who gives answers to questions put to him by Hoanti, the son of Hohi,[†] on human diseases. It is interspersed with philosophical, physiological, and anatomical disquisitions.
2. *Réïssu* ("Holy Centre"), likewise very old, and of similar contents.
3. *Honzo*, a materia medica of more modern origin, about 200 years old; it treats of the remedies arranged according to the three kingdoms of nature, giving a description of their physical and external forms and characteristics, and an account of their therapeutic use. Besides those remedies, which are used in China exclusively, some others, not Chinese, are treated of in this work, as opium, asafœtida, gentian, sal ammoniac, etc.
4. *Ungekiron*, a treatise on pestilence, about 200 years old; of much inferior authority.

Chinese books of less age than about 200 years are looked upon as devoid of all authority, and in general no work is adopted as a standard until it has stood the test of time in China for several generations.

The introduction of European medical science into Japan, which met with but little success before the beginning of this century, may be said to have begun with the labors of Dr. von Siebold, who, with the consent of the Japanese Government, instructed a number of natives privately in natural history, and who also succeeded in introducing vaccination into Japan in 1824. His labors were continued by his successors at Desima, until the government established a regular medical school at Nagasaki in 1857, which was followed by another at Ozaka in 1872; the latter, however, was afterwards incorporated with the medical department of the University at Tokio. But, although much progress has been made to disseminate European medicine among the medical practitioners of Japan, it is useless to expect much improvement until the learning generation shall have taken the place of the practising one.

It has been stated that the main source of knowledge of materia medica is the Honzo. But in reality there are three works, which supplement each other, and of which the first may be termed Honzo—κατ' ἐξοχήν.

1. *Hon-zo-ko-moku* (Chin. *Pun-tsao-kang-muh*).
2. *Hon-zo-ko-moku keï mo.*
3. *Yamoto-hon-zo.*

The first is originally a Chinese work, begun at the command of the Emperor Kea-tsing, by the celebrated Le-she-chin, and after his death completed by his son, in 1596. It is very voluminous, consisting of fifty-two portions, generally bound in forty volumes, with two or three volumes of maps. The first two parts contain an introduction and general practical rules on therapeutics: pp. 3 and 4 give a general summary of remedies, p. 5 describes various forms of water, p. 6 those of fire, p. 7 the earth, page 8 the metals and gems, pp. 9 and 10 minerals in general, p. 11 saline minerals and salts; parts 12 to 38 describe medicines derived from the vegetable, and parts 39 to 52 those derived from the animal kingdom. The maps contain about 1,200 figures. It describes altogether 1,890 remedies, and is said to be a compilation from more than 800 authors on materia medica and medicine, executed by order of the emperor, and, up to within a short time ago, the recognized official authority. The first Japanese edition appeared at Yeddo in 1714, being edited by Ina Wakasui.

The second of the above-named works, Hon-zo-ko-moku keï-mo ("The Honzokomoku's Obscurity-Dispeller"), is a commentary on the first work, composed by the well-known Japanese botanist, Ono Ranzan and published in 1804, simultaneously at Kioto and at Yeddo; again in 1847. His descriptions are remarkably accurate, and his work may be considered as a pharmacognosy of Japan. It consists of 48 parts, generally divided into 31 volumes.

The third work, the Yamoto-Hon-zo was composed in 1709, by Kai-Bara, and printed in Kioto. It is a handbook of the natural history of Japan, and of purely Japanese drugs. It makes no allusion to therapeutics. It consists of sixteen parts in eight volumes, with a supplemental volume, and a volume of botanical plates, which, however, like those of the Hon-zo-ko-moku, are often very inaccurate.

The system of native medical education hitherto in vogue, and still followed in Japan, is based on a sort of apprenticeship; one class of pupils entering the house of their preceptor as "free" scholars, but paying for their education and support; another class entering the service of their preceptor, and for the sake of the instruction received or expected, doing all sorts of menial offices, as compounding medicines, bathing the sick, acting as errand-boy or nursery-maid, etc. The "free" scholars may devote their whole time to study, generally pay an entry fee of ¼ rio[*], and offer presents every six months. All pupils must possess the necessary preliminary knowledge, which consists in being able to read and write Chinese fluently, to know Chinese history, and to be able to make prose and poetical compositions in Chinese. As all the standard medical works are written in Chinese, and only such a course of study as the above mentioned can give sufficient knowledge of this language, no student can be exempted from it. The pupil must be at least sixteen years of age when entering. He is at once given the Shookánron for study, which, as before stated, is the exclusive authority of the Old School (Kohō), while the disciples of the New School (Kōsse, "post-mundane") have to study also the other standard works.

The practical or clinical instruction consists merely in the permission to be present during the consultations or visits of the teacher, who never gives explanations of his diagnosis, but whose manners, mode of manipulation, demeanor, and consolatory discourse, must be acquired by mute observation and unaided imitation. At the end of such a séance, the teacher dictates to one of the pupils, whose special duty this is, a number of receipts, with number and name of patient, into a large prescription-book, which is generally copied by all the pupils. The amanuensis also prepares every prescription, at which occasion he proceeds with a great deal of leisure, as it is considered more conducive to the reputation of the physician to have patients detained in his house for a long time, such as half a day or more. At the end of two years' instruction, the pupils are declared competent, when the "free" or paying scholars generally go to Tokio (Yeddo), or Kioto (Miako), or Nagasaki, for further study, while the "bonded" pupils have to give their services as assistants for another year to their instructors.

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[*] The translation of the Shookánron, without comment, would scarcely fill 100 octavo pages.

[†] The reputed founder of the Chinese empire.

[*] 1 rio = $1.05; 1 rio = 4 bu (itzebu); 1 rio = 60 momme; 1 momme = 10 fun.

It would lead us too far to give here an account of their theories and speculations regarding the origin and division of diseases, or their explanation of the mode of treatment. Suffice it to say that their chief observations are made upon such symptoms as call for the employment of any of their four chief classes of remedies: diaphoretics, cathartics, emetics, and narcotics.

Most of their remedies are of vegetable origin, the most important, according to the Honzo, being the following:

Nindjin, a species of carrot, valued as a panacea, and sold at the rate of about eight dollars per oz. It is cultivated in Japan, but, like many other remedies, must be sent first to China and then reimported, to be of value. It must be administered in very large doses, whence only the rich can afford to be "cured" by it.

Buschi, root of Aconitum Chinense, used in paralysis and generally all nervous diseases.

Natural pearls, whole or powdered, used in ophthalmic affections.

Bear's bile, considered nearly equal to nindjin, and very expensive.

Musk and *camphor*, important nervine remedies.

Goo, or dried bullock's brain; a favorite remedy in infantile convulsions.

Retengai, pieces of decayed human skulls, considered of value in the treatment of phthisis.

Tatsuno otoschingo ("Posthumous Son of the Dragon") are dried salamanders, being the principal remedy in infantile marasmus and diarrhœa.

Sad-juzu (Atractylodes lancea), and

Biaku-juzu (Atractylodes nova), are both much used as antifebrile remedies.

Kobusi (Cyperus rotundus), used as diaphoretic and antispasmodic.

Biwa (Eriobotrya Japonica), important prophylactic against summer complaints.

Nindōō (Lonicera Japonica), universal remedy against skin diseases. A decoction of it is used externally.

Botan (Paconia moutan) is considered abortive. It is, however, not used as such, but is forbidden to be eaten by pregnant women.

Boscho (Sodium sulphate), used as cathartic.

Daio (Rhubarb), the principal cathartic and laxative; termed "the king of all remedies;" only "daio" is believed to be powerful enough to expel all poisons from the body.

Kuatté (powdered flowers of a species of melon), used, in large doses, as emetic.

Mao, a graminea, used in decoction as diaphoretic.

Opium has been introduced in more recent times.

Much used are besides: *Hakko* (Mentha piperita), *Dsiō* (Melissa), *Uikio* (Pimpinella anisum), *Seisin* (Asarum Canadense), *Intsin* (Artemisia capillaris), *Dokkatzu* (Aralia edulis), *Nikkei* (Cinnamomum Loureiri), etc.

The form in which remedies are exhibited is considered to be of great influence upon their effect. They are mostly compounded according to general directions contained in the Shookánron and Kinki, only modified by leaving out, substituting, or adding certain articles, for special purposes.

Decoctions are the most common form of administration; they are generally prepared by the patient or his attendants, from material furnished by the physician, and unless specially interdicted by the latter, always prepared with the addition of ginger, "which is considered to guide them to their appropriate place in the body." Other common forms of remedies are confections, prepared from honey and vegetable powders; suppositories, already recommended by the standard old authorities; powders and pills; ointments, prepared from mutton-tallow, oil, and vegetable powders; and plasters, prepared from litharge, oil, and turpentine.

Medicines are generally weighed, the more costly ones always; ordinary remedies are often measured out with little spoons. But this is always done in the physician's "dispensary." There are no apothecaries in Japan, only dealers in simple drugs, or certain standard compounds, which are sold to the people at large, or to physicians, who alone know how to compound a complicated recipe. The necessary remedies for sudden emergencies are carried by every practitioner in the *Inroo* ("stamp-keeper"), a box containing four compartments, and carried on a string fastened to the girdle over the right hip. In one of these compartments must always be contained a mixture termed *Kitzuke* ("recalling power"), consisting of storax, honey, musk, camphor, cloves, terra japonica, incense, etc. This is given in all dangerous attacks, as syncope, angina pectoris, convulsions, palpitations, etc. Another compartment contains dried bear's bile, which is also considered as highly effective in convulsions and other diseases. The other two spaces are filled according to the practitioner's own fancy.

The choice of remedies depends upon the result of the diagnosis. The latter is made chiefly from an examination of the pulse. A skilful physician is expected to correctly recognize and prognosticate the disease, without oral inquiries, merely from an examination of the pulse. The medical authorities contain a minute and detailed exposition of the variations of the pulse and its relations to various diseases, and show in this particular, as in many others, much relationship to the systems of medicine in vogue among the ancient Hindus and Greeks.

In the following we append a summary of the contents of parts 5, 6, 7 and 8 of the Japanese pharmacopœia contained in the Honzo.[*]

Rain-water (especially collected during spring), lake-water, dew-water, moon-water (collected under the rays of the moon on a metallic mirror), hoar-frost water, snow-water, hail-water, ice-water (among other uses recommended, mixed with Ama-sake, for "Katzenjammer"), bambus-water, water drained through old roofs (considered poisonous; used as an antidote for mercurial poisoning, or against rabies), river-water, well-water (considered injurious, and avoided for the preparation of tea, which becomes dark-colored), well-water collected on the first day of the first month, or the second day of the second month, etc., sweet water from Mino and Omi, water containing bicarbonate of calcium (niyu ketsu), warm mineral water (no less than two hundred and forty-nine mineral springs are known to exist in Japan; some of these of considerable richness in important therapeutic constituents), sea-water brine (used in scabies), spring-water from rocks, putrid water collected about old posts, water from corpses (collected by placing empty cups into the coffins, and withdrawing them after the decomposition of the cadaver; used internally in mania, and also externally), water through which snakes have passed, vinegar-water (prepared by allowing a decoction of millet and awa to undergo fermentation), condensed water (from rice-boilers), water boiled in copper kettles, grindstone-water, pigsty-water (antidote against poisons), water in which new-born infants have been washed, rain-water collected in empty bladders ("the patient must not know the *origin* thereof"—which caution we should imagine would be applicable to many other remedies in their catalogue), and various others. The succeeding part of the work contains an account of various form of fire and agents for combustion: male fire (actual burning fire), female fire (all phenomena of phosphorescence, or luminousness without actual flame), fire produced by friction of wood (supposed to be only obtainable from *Retinispora obtusa*, or Hinoki, and *Meliosma rigida*, or Yama biwa), wood-charcoal, charcoal of various kinds of wood (much used in large lumps or logs, for the absorption of noxious vapors or effluvia in houses); moxa-fire (the leaves of Artemisia Chinensis, pounded and dried and placed upon affected portions of the body, where they are ignited; moxas are much in use as counter-irritants, and in rheumatic or gouty diseases); actual cautery (highly esteemed in rheumatism; it consists of round or square iron plates of about three square inches, with a central handle); lamp-fire, burnt wicks, native coal; petroleum (sekinoyu; besides the usual industrial applications, it is used for preparing a special kind of lampblack, which is said to give to the better grades of Japanese and Chinese India inks their peculiar lustre); soot. Then follow: sulphur (iwo; crude or sublimed), rock-crystal, amethyst, river sand, quartz, agate, chalcedony, opal, obsidian, pumice (decoction in diabetes), arrow-points from the stone period of Japan, and a number of petrefactions.

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[*] Cf. *Mittheil. d. Deutsch. Ges. f. Natur- u. Völkerkunde Ost-Asiens*, No. 3, Yokohoma, 1874.

It would have led too far to mention all the diseases for which these various remedies have been used; but at a future occasion, should we find space to continue the *résumé* of the contents of the Japanese Pharmacopœia, we shall add the necessary therapeutical remarks, when deemed of interest.

CH. RICE.

NOTE ON OLIVE CULTURE AND OLIVE OIL IN GREECE.

BY PROF. XAV. LANDERER,

Athens, Greece.

THE quantity of the annual production of olive-oil in Turkey and Greece cannot be exactly stated, as no statistics are available, and no sort of care, either by manuring or by irrigation, is bestowed upon this valuable tree; besides, for many centuries there has existed a popular notion that the olive-tree, like some other wild fruit-trees (as, for instance, *Quercus Aegilops*, Willd., which furnishes the so-called balanidia or valonias), produces abundant crops only in every alternate year, and does not require special cultivation. In prosperous seasons, Greece, together with the Ionian Islands, especially Corfu, can produce from 12 to 15 millions of okes* of olive-oil, of which about 10 millions are exported. Turkey in Europe and Asia Minor, with the rich islands Mitylene, Chios, and Crete, produce annually about 50 mill. okes, of which some 30 mill. are exported.† Regarding the quality of this oil, as produced in Greece or Turkey (where it is called Zaitoun Yăghi, vulg. Zaitoun-yăgh), it must be acknowledged that it cannot replace the best French or Italian olive-oil for table use, but, nevertheless, millions of people use this oil for culinary purposes, chiefly as a substitute for butter, which is very dear, costing 4 to 5 drachmas per pound, while the oil can be purchased for 1 dr. and 20 leptas.‡ If the Greek oil were prepared by cold expression and filtered, it would be not only quite equal to Provence or Lucca oil, but would probably be preferred to the latter as being purer and a more natural product. Therefore, I desire to appeal to all those who are specially interested in the production or sale of olive-oil, to cause factories to be established in Greece or Turkey for the manufacture and export of pure olive-oil, which could not fail to yield handsome profits.

Millions of pounds of inferior oil are used in the manufacture of soap and for other industrial purposes. Such soaps are generally marked with a Turkish monogram, as, for instance, the Cretan soap, *Kreticon Sapouni* §, which has an excellent reputation in all parts of the Levant, as well as in Europe. Large quantities of so-called "Pyrinclaron," an oil, which is obtained by exhausting the olive-kernels with carbon disulphide, have also been made use of, of late years, in the manufacture of soap. Formerly, these kernels and other residues, which yet contained from 3 to 5 per cent. of oil, were thrown away as useless, or used as fuel for heating the water in the oil-mills. The recovery from this waste product of the residuary oil has been of great importance for Greek industry.

NOTE ON THE DATE AND ITS USE IN THE ORIENT.

BY PROF. XAV. LANDERER, ATHENS, GREECE.

DURING the months of November and December the markets of the Orient are supplied with dates from Alexandria, Cairo, and other parts of Africa. These are mostly purchased by well-to-do families only, as they are dear in proportion to other fruits, the oke of fine-flavored and perfect dates—which are called churmades*—costing as much as four drachms.† The kernels of the fruit may be found lying about on the streets of Egyptian cities in astonishing quantities; these, as well as apricot-kernels, are generally collected by poor people, who roast and grind them and prepare from them a sort of "coffee" of quite pleasant taste, which is very commonly drank in the small coffee-houses by the poorer classes. In Mekka and Medina, during the height of the annual pilgrimage, when as many as 100,000 pilgrims are sometimes present, this kind of coffee is sold to them in immense quantities by the Kaffetzy's, at the rate of two tanady's per cup. A good housewife is said to be able to prepare thirty different kinds of dishes from dates. Egypt exports also, as delicacies, date-bread, date-confection, and date-sherbet. The latter is mostly sent as a present to absent friends. The confection is prepared from dates which are mixed with nuts pounded in the saccharine juice of the date, or with pounded mann-fruit, that is, the root of Cyperus esculentus. The latter are likewise brought from the Orient during the winter months, under the name of mana-mana, and are sold at three leptas per oke. They have a very agreeable taste, resembling chestnuts or almonds, and are used for baking a special kind of bread, or for preparing a delicious sort of almond-milk, or else are expressed to procure the fixed oil which they contain. The word Manah ‡ in Hebrew denotes "a gift, a donation." It is not unlikely that these roots, as well as Manna Sinaitica § from Tamarix mannifera (produced by the puncture of an insect, Cynips manniparus, or Coccus manniparus), and Persian manna (from *Hedysarum Alhagi* L., *Alhagi Maurorum*, Journ.), ‖ may have formed the food of the Israelites in the desert, as the fruit of the carob-tree (St. John's bread), together with the edible locust, are mentioned as the nourishment of John the Baptist in the desert.

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* 1 oke = 2¾ lbs. avoird.

† We find the following note on olive-oil production in the *Pharmac. Geschäftsbl.*: While France produces annually only 250,000 hektolitres of olive-oil (and together with Algiers 400,000 hektolitres), Austria produces 264,000 h. l. annually, that is about one-third of the yield of Portugal. Spain produces 1,135,000 h. l. yearly, Greece to the value of about 5,000,000 francs, and Turkey about as much more. But all these countries are surpassed by Italy, which is the richest olive-territory in Europe. According to Prof. Landerer, the Levant appears to produce a good deal more of olive-oil than has been supposed.—ED. N. R.

‡ 1 drachma = 100 lepta = 0.18 3-5 cents gold.

§ Κρητικὸν Σαπούνι.

*Χουρμάδι or χουρμᾶς, in modern Greek, from the Persian *khurmā*. The English name *date* is derived from the root "*dakt*," by lengthening of the vowel and elision of a consonant. Thus the Greek δάκτυλος and Latin *dactylus* has branched off into two forms—one analogous to the English *dāte*, namely Swedish and Dutch *dadel*, and Spanish *datil* (and *datilero*); the other with short vowel and assimilation, as Italian *datolle* and *dattero*, French *datte* and *dattier*; Lith. *dattule*, Germ. *dattel*, Dan. *daddel*. In Arabic the date has a number of names, one of which is *tamr* ("slender," a generic name for "palm"), which is afterwards used only to denote the ripe, dry fruit: this form is the source of the Portug. *tamara* (date) and *tamarero* (date-tree), and of a number of variations in use in Northern Africa as well as of the Mediævo-Greek τεμαρ-ἐντι. Another Greek appellation is φοῖνιξ (*phœnix*), which is said to have been applied to the fruit and tree, because introduced by the Phœnicians. From this is derived the Russ. *finik*, and probably the Goth. *paika* (in Ulfila's translation). The old Egyptian name for "palm" was *bet* (*bads* in the Saïtic dialect), in Copt. *baï* (properly a palm-branch), from which appear to be derived the dialectic and later Greek βαΐς, βάϊον, βαΐα (the date-tree is even yet called βαγά in Crete), βαγία, etc.—Ch. R.

† About 75 cents gold.

‡ The derivation of the Hebr. mān ("manna," that is, the miraculous food of the Israelites in the desert), from Hebr. mānah ("gift") or Arab. manna, is, however, very improbable. See Fürst's Concordance, s. v.—Ch. R.

§ Or Tamarisk Manna. See *Pharmacographia*, p. 371.

‖ According the *Pharmacographia* l. l., Alhagi Manna is obtained from Alhagi Camelorum, Fisch.—Ed. N. R.

THE U. S. PHARMACOPŒIA.

Dr. Frederick Hoffmann, in a communication addressed to the editors, states that the remarks attributed to him by our reporter in the Proceedings of the Conversational Meeting of the College of Pharmacy of the City of New York (vol. v., p. 366, b., lines 2–8), are not exactly correct, and that the substance of his remarks was as follows:

"I regard it as important at first to decide whether the pharmacopœia should be made a book which should give precise and definite description of the officinal drugs and chemical and pharmaceutical preparations, sufficient to insure their identification and quality, so as to afford, even in legal cases, a standard of authority for reference. If the status of the average medical and pharmaceutical education in our country admits, our pharmacopœia should retain, as Dr. Squibb calls it, the "skeleton" form, and then be made to approach in scope, and equal in briefness and precision, the best pharmocopœias of the day, as, for instance, those of Germany, Switzerland, Austria, and Sweden. Or else, if we are not yet prepared for such a standard, and a compendium rather than a pharmacopœia proper is wanted, there seems a tendency to prevail to reach a compromise between the two, so as to make a code which combines at once the substance of a pharmacopœia, and, in a condensed form, the supplementary material hitherto offered for needed information and reference by the Dispensatory and other commentaries.

"This question in regard to the compass and diameter of our next pharmacopœia, therefore, appears to me to require due consideration prior to that, by whom and how the work shall be done."

COMMITTEE ON ADULTERATIONS AND SOPHISTICATIONS.

We publish the following card from the Committee on Adulterations and Sophistications of the Am. Ph. Assoc., hoping that all of our readers who become cognizant of any item of interest relating to the subject will comply with the request of the Committee:

American Pharmaceutical Association,
Dec. 6, 1876.

Dear Sir—The Committee on Adulterations and Sophistications invite your co-operation in furnishing material for the next annual report. Original investigations will be most thankfully received, and due credit given to the authors; but in the absence of these, any published articles bearing on the subject, which you may meet with in your reading of pharmacal or other journals, would be very acceptable.

E. H. Sargent, Chicago.
Dr. W. H. Pile, Philadelphia.
Emlen Painter, San Francisco.
Committee.

Please address communications at as early a date as convenient, to

E. Painter,
Corner Clay and Kearny Streets, San Francisco, Cal.,
Chairman of Committee.

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Fraudulent Mineral Waters.—The Treasury Department has received information to the effect that a large portion of the mineral waters imported in bottles into the United States, and which are entered free as natural, consists, in fact, of artificial mineral waters which are dutiable under Schedule M. as follows: "Mineral or medicinal waters, artificial, for each bottle or jug containing not more than one quart, three cents, and, in addition thereto, twenty-five per centum ad valorem; containing more than one quart, three cents for each additional quart or fractional part thereof, and, in addition thereto, twenty-five per centum ad valorem." The customs officers have been instructed to make more careful examinations of all importations, and to notify importers that hereafter invoices of so-called natural mineral waters should be accompanied by certificates from the shippers abroad showing that they are, in fact, natural mineral waters, and specifying the spring or springs which produce the same.

BIBLIOGRAPHY.

The Popular Health Almanac for 1877. Edited by Frederick Hoffman. E. Steiger, New York, 1876.

The second annual issue of this useful and valuable pamphlet, which was originally designed to supplant the nostrum-almanacs, contains a well selected series of articles on hygiene, first help in accidents and emergencies, tables of weights, measures, and moneys (the latter, however, only in the German edition), a list of nineteen nostrums, giving their constituents, and various other very interesting matters, all of which will make the little volume deservedly popular.

Books and Pamphlets Received.

Carpenter (William B.). Principles of Human Physiology. A new American from the eighth revised and enlarged English edition. Henry C. Lea. 8vo, pp. 1,083.

Transactions of the Illinois State Medical Society for 1875. 8vo, pp. 288.

Schweig (G. M.). The Electric Bath: Its Medical Uses, Effects, and Appliance. New York: G. P. Putnam's Sons. 12mo, pp. 134.

Duhring (Louis H.). A Practical Treatise on Diseases of the Skin. Philadelphia: Lippincott & Co. 8vo, pp. 618.

Ziemssen (Dr. H. von). Cyclopædia of the Practice of Medicine. Vol. VII.: Diseases of the Chylopoëtic System, Diseases of the Naso-Pharyngeal Cavity and Pharynx, and certain Affections of the Larynx. New York: Wm. Wood & Co. 8vo, pp. 1,046.

The Oregon Medical Journal, Salem, Oregon. Editors: C. H. Hall, M.D.; A. Sharpless, A.B., M.D. Associate editor: L. L. Rowland, A.M., M.D.—[all of whom are professors in the local medical school. The journal is published quarterly by the Marion County Medical Society, has 32 pages of matter, costs $2.10 per year, and is worth the money.]

Transactions of the Colorado State Medical Society, 1876.

Jacobi (A., M.D.). On Masturbation and Hysteria in Young Children. Wm. Wood & Co. 8vo, pp. 32.

Chadwick (James R., M.D.). The Medical Libraries of Boston. Privately published. pp. 11.

Catalogue of Some Store and Greenhouse Plants, including Orchids, Ferns, Palms, etc., for sale by George Such, South Amboy, N. J. 8vo. [This must be a very interesting collection of these beautiful plants, and will richly pay for the half day's time which it will take for a visit from those who live at no greater distance than New York.]

Vick's Illustrated Catalogue of Seeds, Bulbs, etc., for 1877. [The handsome catalogue of this well-known dealer is always interesting.]

Seiler (Carl, M.D.). Micro-Photographs in Histology. Vol. 1, No. 6.

NEW BOOKS.

Galippe (L. M. V.). Étude toxicologique sur l'empoisonnement par la Cantharidine et par les Préparations Cantharidiennes. 8vo, pp. 204. Paris. 1876.

Goullon (Dr. H.). Thuja occidentalis: Abenländischer Lebensbaum. Eine monographisch- therapeutische Abhandlung nebst kritischer Beleuchtung der sogenannten Lues gonorrhoica (blennorrhoischen Syphilis) oder Sykosis Hahnemann's. Vom homœopath. Centralverein Deutschlands gekrönte Preisschrift. 8vo. Leipzig.

Landolt (Prof. Dr. E.). Die Einführung des Metersystems in die Ophthalmologie. 8vo. Stuttgart.

Knop (Prof. A.). System der Anorganographie als Grundlage für Vorträge an Hochschulen. 8vo. Leipzig. Pp. 324.

Stein (Dr. S. Th.). Das Licht im Dienste wissenschaftlicher Forschung. Pp. 498. 8vo. Leipzig.

Frey (Prof. Dr. Heinr.). Handbuch der Histologie und Histochemie. 5th ed. 634 illust. 8vo. Leipzig.

(*New edition of this important work.*)

Parsons (C.). On Sea-Bathing and Sea Air. London.

Woodman (W. Bathurst) and **Tidy** (C. M.). A Handy-Book of Forensic Medicine and Toxicology. Illustrated. London.

Fothergill (J. M.). The Practitioner's Handbook of Treatment; or, the Principles of Rational Therapeutics. London.

Auerbach (G.) Anthracene: Its Constitution, Properties, Manufacture, and Derivatives, including Artificial Alizarin, Anthrapurpurin, etc., with their Applications to Dyeing and Printing. Translated and edited by William Crookes. London.

Calendaria Botanica Ridiculosa. 1877. Fcap. 8vo. London.

Cooke (M. C.). A Manual of Structural Botany. New edition. 18mo. London.

Wanklyn (J. A.) and **Chapman** (E. T.). Water Analysis: A Practical Treatise on the Examination of Potable Water. Post 8vo, pp. 192. London.

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Sutton (Francis). A Systematic Handbook of Volumetric Analysis. 3d edit. 8vo, pp. 425.

Herring's Condensed Materia Medica.

Hart (C. P.). Repertory to Hale's New Remedies. 8vo, pp. 190.

Wythe (J. H.). A Compendium of Microscopic Science (including Micro-chemistry). 8vo.

Ireland (J.). The Oil-man's Calculator. Cr. 8vo, pp. 288.

Simmonds (P. L.). Hops: Their Cultivation, Commerce, and Uses in various Countries. Cr. 8vo, pp. 135.

Cooke (M. C.). A Plain and Easy Account of British Fungi. 3d ed. rev. 12mo, pp. 170.

Watson (H. A.). A Treatise on the Kinetic Theory of Gases. 8vo, pp. 58.

Andral. Recherches cliniques et expérimentales sur l'action des eaux sulfureuses d'Eaux-Bonnes. 8vo, pp. 51, 4 plates.

Dujardin-Beaumetz and Audigé. Sur les propriétés toniques de la glycérine. 8vo, pp. 15.

Dujardin-Beaumetz. Sur les propriétés physiologiques et thérapeutiques des sels de cicutine et en particulier du bromhydrate de cicutine. 8vo, pp. 15.

Pathault (L.). Des propriétés physiologiques du bromure de camphre et de ses usages thérapeutiques. 8vo, pp. 48.

Cooke (Dr. M. C.): Report on the Oil Seeds and Oils in the India Museum, as produced in India. 8vo. London.

Mackenzie (Morell, M.D.). The Pharmacopœia of the Hospital for Diseases of the Throat. Based on the Brit. Pharm., 1867. 3d ed. London.

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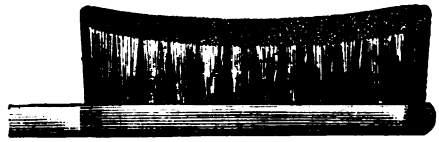
A Possible Sanitarium for Consumption.—Dr. Wight, in a little pamphlet of eight pages, gives an interesting account of the people—four thousand in number—who live on Walden's Ridge, in Tennessee. He has not been able to find that a well authenticated death from consumption ever occurred among the natives. The ridge is from two thousand to two thousand five hundred feet high. The mercury has never been known to be above 95° F. or below 10° F. The people live mostly in log-houses, which admit plenty of fresh air, burn wood, wear no flannels, and live on corn-bread, bacon, and coffee. They are mostly farmers, and very few appear to work hard. The Cumberland table-land, of which this ridge is a part, seems to offer an inviting field for those predisposed to pulmonary complaints. It comprises territory enough to make a good-sized State, and the city of Cincinnati has determined to build a railroad through that great table-land in the north part of the State, connecting with Chattanooga in the southern part.—*Boston Med. and Surg. Journ.*

PHARMACEUTICAL SUNDRIES AND NEW INSTRUMENTS.

"Perfection" Tooth-Brush.

Mr. Theo. Ricksecker, 146 & 148 William street, New York, has shown us some novel patterns of the celebrated brand of "*Perfection*" Tooth-Brushes, illustrations of which are herewith appended. The "*Windsor*" Brush combines a palate or cavity brush, with a penetrating tooth-brush. The "*Metcalfe*" is also a handsome pattern.

"Windsor."



"Metcalfe."

The "*Philadelphia*" derives its name from its great popularity in that city, and is sometimes called the "Mintzer."

"Philadelphia."

The "*Murray*" finds special favor through a celebrated dentist of Murray Hill, in this city. All the above sell at $36.00 per gross.

"Murray."

The "Perfection Glycerine Jelly" from this house is worthy of note, being a fine article of solidified glycerine, nicely scented, in wide-mouth bottles. Retail price, 25 cents. At a season when chapped hands and lips are so common, this is a good article to have in stock.

Tin-Foil.

It may not be generally known that *tin-foil*, as now so widely used in the trade, is not a foil made of tin alone, but composed mainly of lead with but a slight alloy of tin. The manifold appliance of tin-foil to articles of consumption and medicine is not regulated with us by any laws such as exist in European countries, forbidding the use of lead or composition, or otherwise impure tin-foil in all cases where it may through oxidation or contact with the goods become poisonous and injurious to the health of the consumers—as was the case in an instance mentioned among the items in this number. Too little attention has been paid to this subject so far. It is to be hoped that ignorance, and not wilful oversight of the facts, has led many manufacturers and dealers to use an article accompanied with such risks, for the sake of saving a trifle in the cost. Besides this saving is in most instances imaginary, as the German *pure tin-foil* combines such a fineness and *large yield*, with relatively great softness and strength, that it will practically answer most purposes, and not cost more than an equal surface of the lightest composition foil, while all heavier grades of the latter will be much more expensive to use. The yield of the regular German pure tin-foil is 72 square feet, or 10,368 square inches per pound; a heavier grade yields 66 square feet. The sheets are large-sized, and waste in cutting is consequently small. The manufacture of this superior article of pure tin-foil has flourished for over a century in and around Nuremberg (Bavaria), and its importation is made a specialty by Witteman Brothers, 164 William street, in this city; who also furnish gold-foil (gold-plated tin-foil), colored foil, tin-foil paper, and metallic caps in every variety.

NEW PATENTS AND LAWS.

[*We will furnish gratis, to subscribers, any information relating to new patents which can be obtained from the Official Gazette of the Patent Office; and for 50c. will give copies of the drawings of such as are illustrated. Electrotypes of the illustrations contained in* New Remedies *will be furnished for 50c. per square inch.*]

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TRADE-MARKS REGISTERED IN U. S. PATENT OFFICE.

Certificates dated Oct. 10, 1876.

4,037. **Cordial or Liqueur.**—Alexandre Legrand, Ainé, Féchamp, France. "A lead band applied around the neck of the bottle containing my cordial and having a thin strip of lead soldered thereto, which strip is extended over the cork of the bottle to the opposite side of the neck-band to which it is also soldered, and is then run downward along the neck of the bottle to a front seal, to be retained by the same, and a seal on the cork of the bottle."

4,041. **Medicines.**—Goldenberg & Co., Philadelphia, Pa. "The letter 'G.'"

4,042. **Preparation for the Hair.**—R. P. Hall & Co., Nashua, N. H. "The fanciful title 'Hall's Vegetable Sicilian.'"

4,043. **Preparation for Lung and Throat Diseases.**—William N. Hedges, Springfield, Ohio. "The word 'Life' and the portrait of the proprietor."

4,048. **Medicinal Oil.**—Joseph B. Sabine, London, Ontario, Canada. "The figure of a flower represented in the accompanying fac-simile; also the name 'Curatine,' and the legend 'For the healing of the nation.'"

Certificates dated Oct. 17, 1876.

4,053. **Natural Mineral Waters.**—Richard Dunbar, Waukesha, Wis. "The words 'Dunbar's Wonderful Discovery; Bethesda.'"

4,057. **Flea-Destroying Powder.**—Lazell, Marsh & Gardiner, New York, N. Y. "The compound word-symbol 'Flea-Killer.'"

4,060. **Fever Medicine.**—Frank H. Shelhorst, Belleville, Ill. "A heavy stone arch, bearing three heavy stone pillars, placed in a line over the centre of the arch from right to left, the heaviest in the centre, and each of these pillars has a cap on the top, tapering to a point; second, a pair of scales, suspended over the arch and pillars from right to left, embracing the pillars."

4,061. **Medical Preparation.**—John N. Solomons, Bayonne, N. J. "The word-symbol 'Digestine.'"

4,062. **Medicated Plasters.**—Seabury & Johnson, New York, N. Y. "Word 'Capcine.'"

Certificates dated Oct. 24, 1876.

4,065. **Tooth and Mouth Wash.**—E. Fougera & Co., New York, N. Y. "Words 'Bernard's Golden Dentilave.'"

4,067. **Tincture for Destroying Bed-Bugs.**—Charles Heinrich, Plainfield, N. J. "The fanciful words 'The Wonderful Killer.'"

4,070. **Acid Phosphates.**—John E. Lauer, Edgewater, N. Y. "The word 'Wheat,' and the representation of the fox, stork, and jar."

Certificates dated Oct. 31, 1876.

4,078. **Cordial.**—Alexandre Legrand, Ainé, Féchamp, France. "The fac-simile of my signature."

4,080. **Medical Preparation.**—Thomas C. Clarke, Chicago, Ill. "The word-symbol 'Papillon.'"

4,085. **Insect Exterminator.**—Guardias & Rovira, New York, N. Y. "The word-symbol 'Eutomaponos."

4,086. **Medicine.**—Thomas E. Jenkins, Louisville, Ky. (Reregistration). "A picture or pictorial representation of the flowering stem of the plant *Cinchona calisaya*, printed upon, over, or by the side or end of the labels."

4,091. **Liniments.**—Francis Register, Philadelphia, Pa. "The figure of a woman represented as holding a vessel from which a snake is drinking or about to drink."

Certificates dated Nov. 14, 1876.

4,129. **Medical Compound.** — Eugene L. Robertson, North Lansing, Mich. "The fanciful words 'The Great American.'"

4,132. **Medicine.**—C. Wakefield & Co., Bloomington, Ill. "The word 'Wakefield,' and a portrait of Doctor C. Wakefield."

Certificates dated Nov. 21, 1876.

4,142. **Lotion.**—Manchester & Co., New York, N. Y. "The arbitrarily-selected words 'Balm of Gilead,' and the figure of a horse represented as trotting.

4,143. **Cough Medicine.**—E. R. Post & Co., Newburg, N. Y. "The fanciful words 'Knott's Koff Knot.'"

Certificates dated Dec. 5, 1876.

4,173. **Medical Preparation.**—John Fareira, Philadelphia, Pa. "The word-symbol 'Continental.'"

4,176. **Volta or Electro-Galvanic Goods for Medical Purposes.**—John E. Hetherington, Cincinnati, Ohio, "a symbol or device, consisting of the representation of a group of elements arranged to form a volta-galvanic or electric chain or battery, or a part of a chain or battery, from which lightning-flashes proceed. Across the face of the above-described symbol are arranged the words 'Pulvermacher Galvanic Co.,' and below it a correct fac-simile of the autograph signature of J. L. Pulvermacher.

Certificate dated Oct. 10, 1876.

836. **"Dickenshield's Asthma Remedy."**—Charles Dickenshield, Philadelphia, Pa.

Certificates dated Oct. 17, 1876.

839. **"Antiseptic Wadding."** — Charles G. Amende, Hoboken, N. J.

840. **"Antiseptic Cotton."**—*Ibid.*

841. **"Borated Cotton."**—*Ibid.*

842. **"Borated Wadding."**—*Ibid.*

Certificates dated Oct. 24, 1876.

843. **"Sulphuret Oil of Roses."**—N. W. & F. S. Button, New York, N. Y.

845. **"An Unfailing Remedy."**—Archibald M. De Witt, West Pittston, Pa.

854. **"Infallible Rheumatic Liniment."** — Clinton Shane and James Kearney, San Francisco, Cal.

856. **"Dr. Wood's Fever Pills."**—William Wood, Cairo, Ill.

Certificates dated Oct. 31, 1876.

861. **"The Great Horse Ointment."**—Richard Hopps, Erie, Pa.

862. **"Old's Medicated Ozone."**—E. F. Olds, Philadelphia, Pa.

863. **"Wakefield's Eye Salve."**—C. Wakefield & Co., Bloomington, Ill.

864. "**Wakefield's Vegetable Liver Pills.**"—*Ibid.*

865. "**Browen's Rat, Ant, Roach, &c., Killer.**"—*Ibid.*

866. "**Wakefield's Tasteless Worm Destroyer.**"—*Ibid.*

Certificates dated Nov. 7, 1876.

872.—"**Pond Lily Wash.**"—George Gross, Washington, D. C.

874. "**The Great American Panacea, Dr. Robertson's Celebrated All-healing Balsam.**"—Eugene L. Robertson, North Lansing, Mich.

875. "**The Great American Wonder, Dr. Robertson's Celebrated Pain Exterminator.**"—*Ibid.*

Certificates dated Nov. 21, 1876.

878. "**Siever's Fieber Dropfen.**"—Otto D'Amour, St. Louis, Mo.

879. "**Siever's Fever Drops.**"—*Ibid.*

900. "**Liebig's Pectoral Troches.**"—New York Chemical Manufacturing Company, N. Y.

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NEW PATENTS.

Patents granted Oct. 10, 1876.

183,097. **Treating Substances with Hydrocarbon Vapor.**—William Adamson, Philadelphia, Pa.

183,098. **Treating Substances with Liquid Hydrocarbon.**—The same.

183,110. **Apparatus and Methods for the Delivery, Separately, and Simultaneously, upon the same Point, of two or more Liquids Chemically Incompatible.**—Henry C. Berry, Chicago, Ills.

183,117. **Poison Bottles.**—J. W. Bowles, Louisville, Ky.

183,158. **Digesting Apparatus for Making Extracts.**—Thomas K Hardman, Lafayette, Ind., assignor of one-half his right to Samuel Bancroft, same place.

183,167. **Devices for Extracting Juices.**—G. Hinaman, Long Eddy, N. Y.

183,185. **Apparatus for the Generation and Hydration of Sulphurous Acid Gas.**—William Maynard, New York, N. Y.

183,193. **Machine for placing Capsules in Bottles.**—Wm. T. Moffatt, New York, N. Y., assignor to Charles T. Barnett, same place.

183,201. **Gravity Batteries.**—Myron W. Parrish, Jackson, Mich.

183,205. **Sphygmographs.**—E. A. Pond, Rutland, Vt.

Patents dated Oct. 17, 1876.

183,269. **Health-Lifts.**—James P. Marsh, Chicago, Ills.

183,296. **Exercising-Machines.**—Frederick Hainsworth and Jonathan Hainsworth, Chicago, Ills.

183,306. **Liquid-Measures.**—John F. Judy, Ferdinand, Ind.

183,322. **Bottle and Cup Stoppers.**—Carlton Newman, San Francisco, Cal.

183,376. **Apparatus for Contracted Joints.**—Samuel A. Darrach, Orange, N. J.

183,388. **Bougies.**—Joseph Fowler, Robert K. Smither, and John C. Allan, Buffalo, N. Y.

183,401. **Process for Refining Petroleum and other Oils.**—Daniel M. Lamb, London, Ontario, Canada.

183,443. **Optical Lenses.**—Charles Alt, New York, N. Y.

183,445. **Bottle-Faucets.**—Wm. Bentley and Richard Bentley, New York, N. Y.

183,454. **Apparatus for the Manufacture of Soda-Water.**—Wm. Gee, New York, N. Y.

183,455. **Connections for Soda-Water Apparatus.**—The same.

Patents granted Oct. 24, 1876.

133,512. **Bottle-Stopples.**—Augustus E. Rich, Fall River, Mass., assignor of one-third his right to Jas. H. Crittenden, same place.

183,597. **Manufacture of Cream of Tartar.**—Guido Schnitzer, Schwäbisch Hall, Germany, assignor to Julius W. Hass, Dubuque, Iowa.

183,599. **Liquid-Filtering Apparatus.**—T. R. Sinclaire, New York, N. Y., assignor to Sinclaire Rectifying Machine Company. Same place.

183,602. **Surgical Clamps.**—A. G. Strubell, Dresden, Saxony.

183,604. **Carbonic-Acid-Gas Generators.**—Charles N. Thompson, Waterbury, Conn.

183,661. **Apparatus for Treating and Aging Spirituous Liquors.**—George Gorwey, Philadelphia, Pa., assignor of one-half his right to John Yearsly, same place.

183,666. **Lozenge-Machine.**—Charles H. Hall, Brooklyn, N. Y., assignor to himself and F. P. Tarbell, New York city.

183,680. **Bottle-Stoppers.**—Gustaf Johnson, Cambridgeport, assignor to Charles Mingay and Halsey J. Boardman, Boston, Mass.

183,687. **Shades for the Eyes.**—Harry C. Kromer, Philadelphia, Pa.

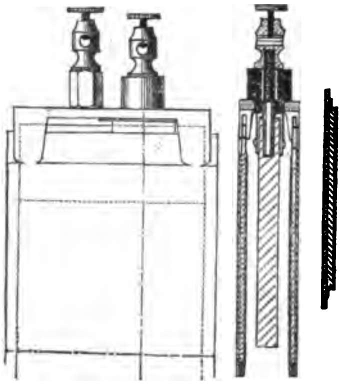
183,694. **Inhalers.**—George I. McKelway, Philadelphia, Pa.

183,709. **Cork-Extractors.**—John S. Saunders, Princeton, Cal.

Patents granted Oct. 31.

183,748. **Galvanic Battery Plates.**—Jno. Byrne, Brooklyn, N. Y.

1. The negative element of a galvanic battery composed of a central core of copper, covered on one face with lead, and on the other with compact adherent coating of platinum.



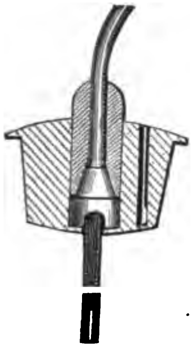
No. 183,748.

2. A galvanic battery cell, composed of two negative plates, each formed of copper, backed with lead and faced by platinum, with a zinc plate placed between the opposite platinum faces, as and for the purpose described.

183,763. **Health-Lifts.** — F. G. Johnson, New York, N. Y.

183,808. **Nursing-Bottle.**—William Kennish, New Brunswick, N. J.

A thin flexible diaphragm at bottom of stopper supports and gives free motion to a tube extending into the contents of the bottle.



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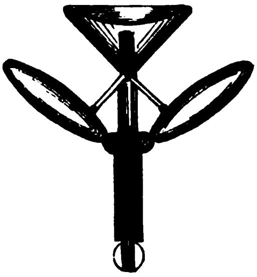


No. 183,832.

183,832. **Pessaries.**—Jonathan P. Barnett, Navasota, Texas. The stem is slotted so that the sustaining-braces can drop and allow the wings to fold underneath the cup of the pessary.

183,840. **Processes of Making Birch Beer.**—Harvey Decker, Jersey City, N. J.

183,890. **Combined Bottle and Cup.**—Marx Block, Chattanooga, Tenn.

183,923. **Abdominal Supporters.**—Nancy J. Hanchette, Chicago, Ill.

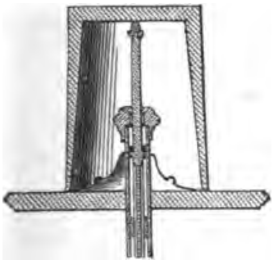
183,973. **Invalid-Bed Bottoms.**—Isaac M. Rhodes, Hancock, Mich.

Reissued.

7,376. **Filters.**—B. Schieffelin, Atlanticville, N. J. Patent 175,508, dated March 28, 1876.

Patents dated Nov. 7, 1876.

184,005. **Galvanic Batteries.**—Howard P. Dechert, New York, N. Y.

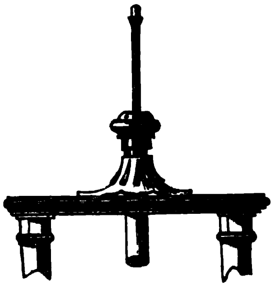


184,131. **Water-Filters.**—Roscoe A. Bean, Hudson, Mich.

184,142. **Process of Manufacturing Anthracene.**—Samuel Cabot, Jr., Boston, Mass.

184,153. **Abdominal Supporters.**—Ella M. Holton, Jackson, Mich.

Reissued.

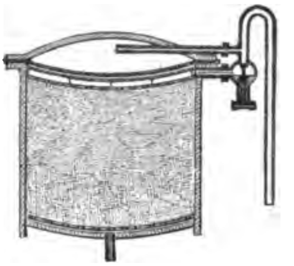


No. 7,380.

7,380. **Tumbler-Washers.** — E. W. Russell, Baltimore, Md. Patent No. 72,911, dated Dec. 31, 1867. The combination with a water-supply pipe having openings for the emission of water, of a valve adapted to be opened by the weight of the tumbler, and to be closed by the current of water in the pipe.

184,093. **Liquid-Filters.**—Wm. Maynard, New York, N. Y., assignor to L. R. Goodwin, same place.

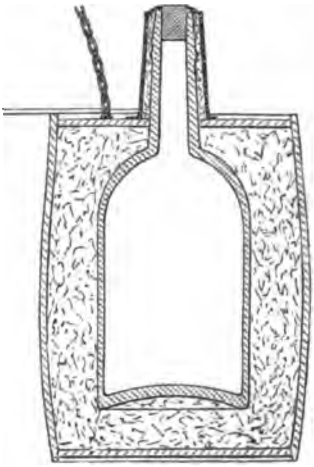
184,024. **Apparatus for Filtering Liquids under Pressure.** — Robert Stewart, Brooklyn, N. Y. An air-tight vessel contains the filtering material and has a fixed impermeable flexible diaphragm dividing the vessel into two chambers. It also has an adjustable diaphragm. The induction-pipe has an automatic pressure-valve and branch pipe leading into the chamber above the flexible diaphragm.



No. 184,024.

Patents dated Nov. 14, 1876.

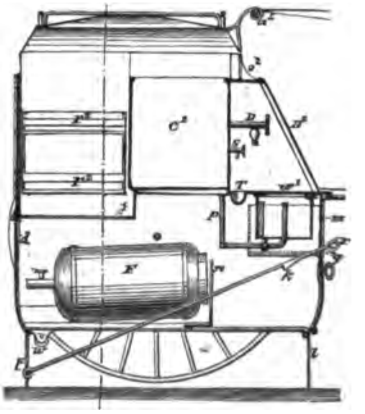
184,256. **Demijohns.**—James C. Moore, Philadelphia, Pa. Consists of an outer protecting case, an inner contained bottle, the neck of which projects through the head of the case and is surrounded and protected by a supplemental collar or sleeve attached to the head of the main casing.



No. 184,256.

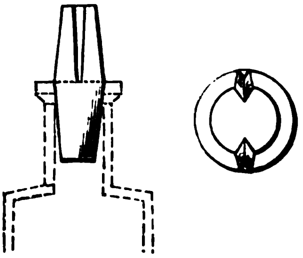
184,292. **Portable Soda-Water Apparatus.**—J. Mathews, New York, N. Y.

A soda-water coupé, or wagon, so arranged as to render it convenient to dispense the beverage. It is supplied with a fountain, ice-chamber, draft-arm and syrup-faucets, tumbler-



No. 184,292.

washer, awning, cooling rack for glasses, adjustable legs, etc., as indicated in the cut.



No. 184,315.

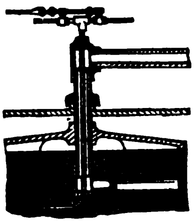
184,315. **Stopper and Dropper Combined.**—J. A. Armstrong. The stopper is so made that when one of its ends is inserted in the neck of the bottle two longitudinal grooves in its surface allow the simultaneous entrance of air and escape of fluid.

184,341. **Treatment of Linseed-Oil.**—H. A. Clark, Boston, Mass.

184,341. **Zinc-Oxide Furnaces.**—Samuel T. Hughes, Newbury, Ohio.

184,343. **Remedies for Dropsy.**—David W. Lawhon, Elgin, Texas, assignor of one-half his right to Wm. C. Lawhon. Consists of extract of grape-vine, spirits of nitre, oil of grape-vine, extract of Spanish apple-root, and common salt.

184,399. **Cases for Transporting Bottles.**—Lewis Mann, Detroit, Mich.



No. 184,427.

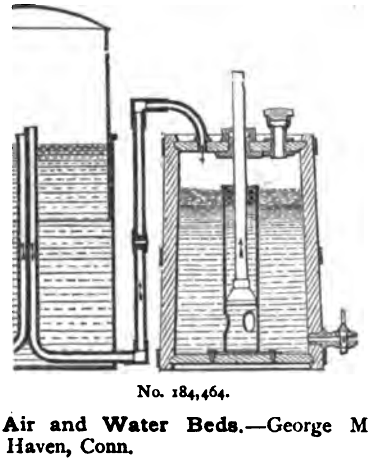
184,427. **Filters.**—Daniel W. Riddle, Waterloo, N. Y. A revolving filter is connected with an exhaust-pipe, which carries off the filtered liquid and maintains a lower pressure on the inside than exists on the outside of the filter. Also the process for cleaning a filter, by means of showering or pouring on its exposed surface the filtering liquid and steam, air, gas, or vapor introduced intermittingly.

184,444. **Furnaces for Evaporators.**—Wm. M. Towers and John M. Bowie, Rome, Ga.

184,454. **Druggists' Shelf-Bottles.**—E. L. Witte, White Mills, Pa.

Patents granted Nov. 21, 1876.

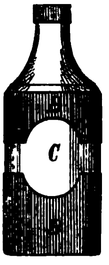
184,464. **Apparatus for Aging Liquors.**—H. G. Dayton. A receptacle for the whiskey is provided with a pipe rising from the centre of the bottom to a point near the top. This pipe has openings near its bottom and perforations at the top, with a larger opening in the cap, through which passes a rod having a plunger at its bottom. As the rod and plunger rise, the liquor above is forced out through the perforations, and comes in contact with the oxygen, which is supplied by means of a pipe and stop-cock from a gasometer.



No. 184,464.

184,487. **Air and Water Beds.**—George M. White, New Haven, Conn.

184,528. **Electro-Vapor Baths.**—Thomas W. Johnson and J. N. Cherry, Keokuk.



No. 184,593.

184,593. **Manufacture of Bottles.**—Edgar N. Curtice, Rochester, N. Y., assignor to himself, Simeon G. Curtice, and Frank M. Mack, same place. A bottle having ribs or corrugations extending from its bottom edge to its shoulder, said ribs or corrugations being intercepted at about the centre of the bottle by an annular recess encircling the bottle, intercepted by one or more circular recesses, forming seats for a label.

184,608. **Bottle-Filling Apparatus.** W. Gee, New York, N. Y.

184,621. **Frictional Electric Machines.** Charles H. Hinds, New York, N. Y.

NOTES, QUERIES AND ANSWERS.

[*Under this heading we shall, to the best of our ability, endeavor to answer such questions addressed to us as come within the scope of this journal, providing they are accompanied by the name and address of the writer. Answers to queries received after the 5th of the month will lie over until the next issue.*]

◆

Detection of Tartaric in Citric Acid. (T. L., N. Y.)—The following method has been proposed by Allen, and gives very good results. Two gm. of the suspected acid are dissolved in 45 cub.centim. of alcohol, the solution is filtered if necessary, and the filter washed with alcohol. To the filtrate are added 5 c.c. of a cold saturated solution of potassium acetate in alcohol, and after thorough shaking or stirring, the mixture is allowed to stand for twelve hours. The precipitate is collected on a filter, washed with alcohol, and washed off the filter with a saturated solution of acid potassium tartrate (cream of tartar) in cold water. Having allowed the solution and the precipitate to remain in contact, under occasional stirring for a few hours, the mixture is again filtered, the precipitate washed once with alcohol, and then transferred by means of boiling water into a capsule, where it is evaporated to dryness and weighed. The weight of the residual cream of tartar multiplied by 0.798, or short, by 0.8, gives the amount of tartaric acid in 2 gm. of the examined acid.

Potassium Iodide and Chlorate (J. O. H., Gibson City, Ill.)—The statement that the simultaneous administration of these two substances is apt to produce symptoms of poisoning is ascribed to M. S. Bidwell, and has been mentioned in our last volume, on page 214. We have had no confirmation so far of the correctness of this statement, and therefore cannot give any other than a hypothetical explanation, which is this, that possibly the oxygen, which chlorate of potassium *may* give off, combines with the iodide of potassium to convert it into iodate. But, theoretically at least, this is doubtful, as but little, if any, chlorate of potassium is decomposed in the stomach, and the conversion of an iodide into an iodate by the agency of a chlorate, in absence of a tolerably strong acid, is highly improbable. We expect, however, to be able to give more precise information shortly, as we have been promised to be furnished with the results of some experiments which are being conducted at present to settle this point.

Churchill's Iodine Preparations (A. N. B. and others).—There are two of these preparations, viz.: the compound tincture and the iodine caustic. Formulas for their preparation may be found on the next page of this number.

Tasteless Tincture of Iron (T. & S.).—The tasteless iron-preparations were introduced several years ago by Mr. J. L. A. Creuse, and have become a favorite and staple remedy. The tastelessness is owing to an addition of an alkaline citrate, which not only masks the taste of iron, but the usual tests as well. The tincture may be made by adding an alkaline citrate (say citrate of soda or ammonia) to an aqueous solution of sesquichloride of iron, in the proportion of two equivalents of the former to every three equivalents of chlorine in the latter, whereby a green salt is produced, which is dissolved in diluted alcohol. Two fluid-drachms of the officinal liquor ferri chloridi require about 120 to 140 grains of citric acid, saturated with either ammonia or soda—the quantity depending upon the real iron-percentage of the liquor—to be added before the alcohol; and the alcoholic strength of the tincture, when finished, must not be more than 30 or 40 per cent., instead of 70 per cent. as usual.

Etymology of "Elixir" (J. W. K., M.D.).—Prof. Hermann Kopp, in his *Beiträge zur Geschichte der Chemie*, 1869, p. 450, has communicated all information which was accessible up to that time regarding the etymology and original meaning of the word "*elixir.*" Regarding the meaning of the word, it was used by the alchemists of the middle age to denote the means of converting the baser metals into silver and gold; in fact, it was almost synonymous with *λίθος τῶν φιλοσόφων*, *lapis philosophorum*. Prof. Kopp states that the word had been said to be of Greek origin; others had referred it to an Arabic and some to a Latin (*elixare*, 'to extract by boiling') source. Kopp also mentions (l. l., p. 209) that the Greek *ξήριον* ("a desiccative powder") occurs in Greek alchemistic writers, to denote "a powder or a liquid used to convert base metals into gold and silver," that is, the philosopher's stone. But it escaped him that this is the real origin of "*elixir.*" *El* or *al* is the Arabic article, and the identity of *iksîr* with *ξήριον* has been pointed out already by Fleischer (*De glossis Habichtianis*, 1839, p. 70).

In this connection we may add that some late investigations of Prof. J. Gildemeister appear to have settled the doubts as to the derivation of "*chemia, chemistry*, etc." The Arabic equivalent *kîmiyâ*, namely, is frequently found to denote not only *the art*, but also the *means* of accomplishing the purpose of the alchemists, being therefore identical, in the latter sense, with iksîr. Now, as the only possible derivation, which permits the interpretation of the word in the sense of *ξήριον* above given, is *χυμός*: *juice, liquid*, there can be no doubt that this is the true source of the word.

Catha Edulis (A. S. W., A.B., Cambridge).—This plant, which is a native of Arabia and Abyssinia, belongs to the nat. fam. of Celastraceæ, and its leaves are used in Arabia for the same purposes as tea or coca. Flückiger found it flowering lately in Liguria (*Buchner's Rep. f. Phar.*, 1876, 504). It contains neither thein nor caffein. The Arabs are very fond of chewing the young twigs and leaves, which produces a gentle excitement and dispels sleep. Niebuhr already mentions this use of the plant, which in Arabic is termed Chaat or Khat. See also *Seetzen, Monatliche Correspondenz*, 27, 176; *Lord Valentine's Travels*, ii., 411; *P. E. Botta, Relation d'un Voyage dans l'Yemen*, Paris, 1841. According to Sylvestre de Sacy (Chrestom. Arabe, i., 419), khat-chewing has been customary in Arabia long before the introduction of coffee. La Roque (*Traité historique de l'Origine du Café*, Paris, 1716, p. 320) asserts that the use of a decoction of the leaves, as a sort of tea, has been entirely replaced by coffee. The plant is described by Forskal in *Flora Aegypto-Arabica*, cent. 3, no. 4, p. 64.

Lafayette Mixture (D. T., N. Y.).—You are quite correct in stating that there are various formulæ of this mixture in vogue, that recommended by Prof. Bumstead differing by the addition of liquorice. (For the benefit of our readers we print this formula elsewhere in this number.) When "Lafayette Mixture" is ordered, without special directions, you are justified in adopting any of the usually known and printed formulæ, which contain about fl. ʒ i. of balsam copaiva in half a pint of mixture.

Syrup of Manganese Iodide (B. W., Vicksburg.)—Hager gives the following formula for preparing this syrup: Three parts of manganese carbonate are introduced into a flask, and 60 parts, or a sufficient quantity of hydriodic acid are poured upon it. When solution has been effected, it is filtered, and the filter washed with a little distilled water. The clear filtrate is placed into a porcelain capsule, and after the addition of 100 parts of white sugar, rapidly heated to boiling, which is to be continued until the contents of the capsule weigh 160 parts, when the syrup is at once to be transferred to small vials, which must be well closed and completely filled, and kept in the dark. 100 parts (by weight) contain 5 parts of manganese iodide.

Protagon (G. M. G., Cuba, N. Y.).—A paper on this subject, by Dr. Chas. G. Polk, published in our November number, pp. 344, will give you the desired information as to its sensible qualities. We are not yet familiar enough with it to make any statement about it. It may be obtained from H. E. Ashmead, 2415 Madison avenue, Philadelphia, at $4.00 per pound or pint for the natural, extracted from the brain of the cow; and at $3.00 for the artificial.

PRESCRIPTIONS AND FORMULÆ.

Tinct. Iodinii Co. (Churchill's).—

℞	Iodine	℥ ijss.	
	Potassium iodide	℥ ss.	
	Alcohol (91%)	ʒ iv.	
	Alcohol (69%)	℥ xij.	Dissolve.

Churchill's Iodine Caustic.—

℞	Iodine	ʒ i.	
	Potassium iodide	ʒ ij.	
	Water	℥ ss.	Dissolve.

Mistura Copaivæ. (Bumstead).—"LAFAYETTE MIXTURE."

℞	Copaibæ	fl. ℥ i.
	Liquor. potass	fl. ʒ ij.
	Extr. glycyrrh	℥ ss.
	Spts. æther. nitr	fl. ℥ i.
	Syrup. acaciæ	fl. ℥ vi.
	Ol. gaulther	gtt. xvi.

Mix the copaiva and the liquor potassæ and the extract of liquorice and spirits of nitre first separately, and then add the other ingredients. [Fluid extract of liquorice fl. ℥ ss. instead of the powdered solid extract, makes a nicer preparation.—Ed. N. R.] Dose: A tablespoonful after each meal.

Mistura Resinæ Copaivæ.

℞.	Resinæ copaivæ	ʒ iss.
	Ol. amygdal. dulc	fl. ʒ iv.
	Mucil. acaciæ	fl. ℥ iss.
	Liq. potassæ	fl. ʒ ss.
	Ol. cinnamom	gtt. vi.
	Aquæ	q. s. ad. fl. ℥ vi.
M.		

Dissolve the resin in the almond-oil with gentle heat, then add the liq. potassæ and form an emulsion. (A. Balkwill in *Ph. J. & Tr.*)

Pomata Ararobæ. (Da Silva Lima).

℞.	Araroba, or goa powder	2 to 4 gms.
	Acetic acid	1 to 2 gms.
	Lard, benzoated	30 gms.
M.	Apply with a fine camel's hair brush.	

Acetum Ararobæ. (Da Silva Lima).

℞.	Araroba, or goa powder	25 gms.
	Acetic acid, diluted	100 gms.

Digest the goa powder in the acid for 8 hours and filter. To be applied pure, or mixed with glycerine.

Syrup of Liquorice Root.—(A. P. Brown, *Am. J. Phar.*)

Liquorice root	4 troy ounces.
Cold water	q. s.
Water of ammonia	1 fluid ounce.
Granulated sugar	13 troy ounces.

Grind the root in a mill and place it into a wide-mouth bottle with tightly fitting stopper, pour upon it one pint of water, mixed with the water of ammonia, macerate for 48 hours, then transfer it to a funnel, allow the liquid to drain from it, and add sufficient water until 2 pints of liquid have passed; allow it to stand until the particles have subsided, then decant and evaporate to 8 fl. oz., filter, and having added the sugar, dissolve it with the aid of heat.

Cream of Camphor.—(Ch. Griffith, *Am. J. Phar.*)

Castile soap	℥ iss.
Water of ammonia	fl. ℥ iss.
Camphor	ʒ vi.
Oil of turpentine	fl. ʒ vi.
Chloride of ammonium	℥ iss.
Water	fl. ℥ xij.

Dissolve the soap-shavings in one-half of the water previously mixed with the ammonia, and the ammonium chloride in the other half; mix the solutions well and add the camphor dissolved in the turpentine; then agitate briskly until the liquids are united and form a perfect emulsion. Other active medicines may be added when indicated.

Hydrobromic Acid Cough Mixture.—Dr. J. Milner Fothergill says the following is a really charming cough mixture, efficient as well as palatable:

℞	Sp. chloroformi	♏ xx.
	Acid. hydrobromic	fl. ʒ ss
	Syr. scillæ	fl. ʒ i.
	Aquæ	ad. fl ℥ i.

Ter in die. Any other acid is, he says, very agreeable; but the hydrobromic acid, from the effect of bromine upon reflex mechanism, allays the cough, often so troublesome. It possesses much the same action as opium, without the ill effects upon the digestive organs or the bronchial secretion. —*Medical Times.*

Formulæ for Treatment of Acne.—M. Rodet, of Lyons, prescribes the following treatment in acne. Friction is to be made every evening over the acne papules with the following:

℞	Adipis,	ʒ v.
	Sulphuris,	
	Acid. Tannici	āā gr. viij. ad xv.

M.

In the morning the face is to be bathed with warm water, to which a little bay rum has been added, the proportion being increased from day to day until it amounts to one-third. M. Doyen, of Lyons, recommends bathing with the following:

℞	Hydrarg. bichloridi	gr. xxx.
	Tinct. lavandulæ	f. ʒ ijss.
	Aquæ distillatæ	f. ℥ x.

M.

M. Hardy uses this formula:

℞	Potassii sulphureti,	
	Tinct. benzoini	āā ʒ ijss.
	Aquæ	f ʒ x.

M.

Two teaspoonfuls in a glass of warm water to be used externally.—*Med. Times, from La France Méd.*

Dr. Ferrier's Remedy for Cold in the Head.—We have so few things that can be of much service in arresting or relieving this disagreeable and common complaint, that we print again Dr. Ferrier's formula for a snuff, which is reported to work very well:

℞.	Bismuthi trisnitratis	ʒ vi.
	Pulv acaciæ	ʒ ij.
	Morphiæ muriatis	gr. ij.

M. To be used occasionally as a snuff.

Hot-Water-Proof Cement.

Gelatin	5 parts.
Soluble acid chromate of lime	1 part.

M. Cover the broken edges with this, press lightly together, and expose to sunlight, the effect of the latter being to render the compound insoluble even in boiling water.

Cement to attach Tin to Metallic Substances.

℞.	Mucilage gum tragacanth	10 ozs.
	Honey of roses	10 ozs.
	Flour	1 oz.

Mix.

ITEMS.

College of Pharmacy of the City of New York.—The regular Quarterly Meeting of the members of the College will be held on Thursday, Jan. 18th, at 8 P.M. After the necessary routine business will have been transacted, it is proposed to discuss matters of general interest to the profession, particularly the *Metric System*, the introduction of which has been lately very much advocated.

Official Alcoholometry in France.—The French Government is about to adopt by law the centesimal alcoholometer of Gay-Lussac, properly verified and adjusted by official authority, as a standard instrument to ascertain the percentage of alcohol in the wines and liquors manufactured and sold in France. Heretofore no special instrument or method had been prescribed by law in making these determinations, and in consequence thereof the same invoice of spirits tested at different places would sometimes show a difference of 5 per cent. in alcoholic strength.

Cinchona Plantations.—The departmental reports made to the Government of India, show that in Sikkim 385,000 cinchona trees, chiefly the red bark variety, were planted out in the financial year 1874–1875, bringing up the total number in the permanent plantation to 2,765,000. The red bark trees were in good condition. Though this bark is not so rich in quinine as the yellow variety, it apparently yields a greater quantity of alkaloid, which is an equally efficacious febrifuge. The inquiries of the Government quinologist have resulted in a cheap and efficient method of extracting the febrifugal alkaloids from cinchona bark. The area of land under cinchona in the Nilgherry Hills is reported at about 3,000 acres, part government and part private plantations. The manufacture of amorphous quinine having ceased in August, 1875, all the bark is now dispatched for sale in the London market. During the year 28,659 lbs. of mossed bark were shipped to England, and the prices averaged about 4*s.* per lb., an advance of more than 1*s.* on the average of the preceding year. The cultivation of cinchona in the Sittaud division of British Burmah was carried on with success. There were, at the close of the year, 19,234 plants growing well, and the nurseries contained 46,823 plants. The Government of India have decided not to manufacture quinine in British Burmah, and also prefer that the extension of the cultivation should be carried out through the agency of the Karens, and they have accordingly suggested that four Karen youths should be sent to the Sikkim plantation to be trained in the work.

The Prosecution of Prescribing Druggists.—The Executive Committee of the Chemists and Druggists' Trade Association have passed the following resolution: "That in any case in which a chemist and druggist is threatened with legal proceedings for recommending simple remedies, when required to do so, in his own shop, if he be a member, and the case is such that the sub-committee (appointed for that purpose) approves, this Association undertakes to defend him, but at the same time disapproves of other indiscriminate prescribing."

A Method of Preventing Cloudiness on Exploring Mirrors.—According to *L'Union Médicale* of September 23d, this means consists of passing lightly over the laryngeal mirror a linen cloth steeped in glycerine. The watery vapor contained in the expired air is dissolved completely in the glycerine, and the cloud does not form. This method is really more practical than to immerse the mirror in warm water, or to warm it at the flame of a lamp. M. Tamindis, the medical student who communicates the new process of preventing the laryngeal mirror from being obscured, proposes its extension to astronomical observations, and recommends its use to the persons who wear spectacles, and are obliged to go out in foggy weather.

M. Charles St. Claire Déville, a distinguished French scientist, is recently deceased. He was distinguished as a chemist and mineralogist, and was noted as the discoverer of amorphous and insoluble sulphur, thus showing, for the first time, a simple body in two conditions, differing not only in physical characteristics, but in essential chemical properties.

Druggists in France.—There exist in France 6,210 druggists' shops, of which 2,121 are of the first, and 4,089 of the second class. In 1866 the total number was only 5,803. Calculating the proportion to the whole population, this gives one druggist to every 10,000 inhabitants.

Calvert Scholarship.—The Manchester papers announce that Mrs. Crace Calvert has presented to Owens College the sum of £700 for the foundation of a scholarship in chemistry, in memory of her late husband, Dr. Crace Calvert, F.R.S. The scholarship will be of the annual value of £25, and will be competed for by members of the evening classes.

Cinchona Cultivation in Burmah is said to have been enthusiastically undertaken by the natives.

A rich Gold Mine.—The American mine, owned by Hiram Hitchcock, and superintended by Professor J. Alden Smith, is the most extensively worked in Sunshine district, Col. and for quantity and richness of ore, one of the most wonderful mines in the world. The *Courier* says it is turning out large quantities every month, that sell to the smelters at from $100 to $6,000 per ton, and has paid large dividends constantly from the very commencement. The first class ore, by the ton, assays $5,000 to $12,000; the second class, about $800; and the third class, $200. Pieces can be picked from any of the first class sacks that will yield from $1 to $3.50 per ounce, or at the rate of $30,000 to $100,000 per ton. The quantity and quality of the ore has gradually but constantly increased from the surface, and now at the depth of 220 feet the vein is fully twice as large as it was at the surface, and the ore is far richer. From what is already known of this remarkable vein, few will dispute the assertion that no mine thus far discovered has produced such extraordinary yields as the American at Sunshine. Its character under development proves it to be a true fissure, strong and exceedingly rich in precious metal. Its net returns at this time, and since the first ten feet of opening had been accomplished, have been and are greater than those of any other deposit of gold-bearing mineral in the country. Much of the crevice matter is worth from $10 to $40 per pound, and selected specimens have returned at the rate of $200 per ton. The Chicago *Inter-Ocean*, in speaking of this district, says: "But the latest mining sensation is the recent development in the Sunshine district of Boulder county. Tellurium has heretofore been found in only three localities in the world. It carries the richest deposit of gold. This species of ore is found in this district. Its yield is well nigh fabulous. The entire locality develops telluride ore, but among the discoveries the American mine has been worked to a demonstrable extent. The shaft is only down 220 feet, worked by a hoisting engine. The vein is 2 feet thick, of which a streak of 7 or 8 inches is pay ore. The first class of this is shipped to the Omaha Smelting Works, where the net sales average $5,050 per ton. To bring this price the ore has to assay $6,000 per ton, from which are deducted the freight charges, and $100 per ton for treatment; 90 per cent. of the balance is paid to the owner of the ore. The getting out, sorting, and handling of the ore cost, when laid down in Omaha, $100 per ton, freight inclusive. The mine employs 30 men, at a cost of $3,000 per month, who produce 20 tons of milling ore in that length of time. Of this ore there is shipped, as first class, to Omaha, 2 to 4 tons per month, and the balance to Professor Hill's works, at Black Hawk, as second class. The net profit of the mine is $40,000 per month. The present owners of the mine bought it, when partially developed, for $17,000. It cannot now be purchased at any price within reason.—*Miner's Journal.*

Preservation of Eggs.—According to the *Chronique de la Société d'Acclimation*, the German military authorities at Passau, Bavaria, are very much interested in some experiments to devise a means by which eggs can be preserved. It is claimed that the egg completely desiccated, with proper care, will lose nothing of its nutritive properties, and will simply present in an infinitely smaller volume the same quantity of alimentary matter as before the operation.

Mica and Graphite from the Arctic.—During the trip of the steamer Tigress in search of the Polaris expedition, Lieut. W. A. Mintzer, U.S.N., discovered some valuable deposits of mica and graphite along the shores of Cumberland Inlet. An expedition was fitted out last spring for the purpose of bringing home this treasure, under the command of Lieut. Mintzer, who had received leave of absence, and who was accompanied by Capt. Buddington and Esquimaux Joe, of Polaris fame. The expedition has lately returned with about fifteen tons of excellent mica and an unknown quantity of graphite.

Yerba de Fleche, Colliguaja, or Arrow-weed, is described by Capt. Polhamus, of Yuma, A. T., as a shrub from four to six feet high, branchy, and in the months of June and July yielding from three to five seeds from each pod. These seeds have each a little larva inside, which for several months give a peculiar jumping movement to it, especially when slightly warmed. The leaf of the plant is green during the whole season; is about half an inch long, and a quarter of an inch wide; the bark is ash-colored. By merely stirring coffee or any drink with a small branch of this shrub, it acts as an active cathartic. Taken in large doses it is an active poison.

The Paris Academy of Medicine has accepted the offer of a site in the old Luxembourg Gardens. The lecture-rooms, laboratory, fine library, unique museum of surgical instruments, and precious archives of this institution, which it inherits from the old Society of Medicine and Academy of Surgery, and which are almost a sealed book, will now find a fitting habitation. The Academy has been for the last fifty years provisionally located in a building of which it never could permanently have possession, and will now be properly lodged in the vicinity of all the learned societies of Paris.

The total imports of drugs, for the year 1876, were $496,000,000, while the total exports were $596,000,000, being a balance in our favor of $100,000,000.

New Galvanic Battery.—M. Leclanché has just constructed a new galvanic battery, which the *Annales Industrielles* thinks likely to render great service, both in manufactures and in scientific research. The original oxide of manganese battery by the same inventor consists of a porous jar filled with pyrolusite, in which is contained the carbon forming the positive pole. This jar is immersed in a solution of sal-ammoniac in contact with zinc. M. Leclanché has, however, introduced several improvements into this battery. He has superseded the porous jar by conglomerating the oxide of manganese, mixed in nearly equal parts with carbon, but with the addition of a small quantity—5 per cent.—of resin, for the purpose of giving consistency to the mass. These three substances, properly pulverized and intimately mixed, are conglomerated under a considerable pressure, and at a temperature of 100° Cent.=212° Fahr., into a solid cylinder, which serves at the same time as a porous diaphragm and a positive electrode. But here a difficulty occurred. Under the influence of the current, an almost insoluble oxychlorate of zinc was formed, which was deposited in a crystalline form in the pores of the electrode, and considerably diminished its conductibility, so that the internal resistance of the battery increased very rapidly, occasioning considerable inconvenience, especially when used for telegraphic purposes. M. Leclanché has now got rid of the difficulty by inserting in the centre of the carbon and manganese electrode, while being moulded, a small cylinder of bisulphate of soda. This acid salt prevents the formation of the oxychlorate of zinc; and the battery preserves its regularity for more than a year without the necessity for renewing the water of the saline solution. It offers a much slighter resistance than other batteries, and gives out a considerable quantity of electricity. A single element of small size, presented by M. du Moncel to the Académie, immediately caused a platinum wire connecting its two poles to become red-hot.

Enormous Casks of Wine.—There were recently landed at the London docks two monstrous casks or "tonnels" of wine, which were put up and shipped from Spain and Portugal. One contained 638 gallons, or 3,828 bottles of sherry; the other 590 gallons, or 3,540 bottles of port.

Water and Grease-Proof Paper.—A new water and grease-proof paper is obtained by saturating paper with a liquid prepared by dissolving shellac at a moderate heat in a saturated solution of borax.

A Cement for fixing metal letters to glass windows may be made by taking copal varnish, 15; drying oil, 5; turpentine, 3; oil of turpentine, 2; and liquefied glue, 5 parts. Melt in a water-bath and add 10 parts of dry slaked lime.

Chloral Plaster.—Dr. Solari, of Marseilles, says the *Medical Examiner*, recommends the chloral plaster as an excellent application in cases of neuralgia, and of pains resulting from exposure to cold. The plaster is easily prepared by powdering the chloral over a common pitch plaster, one or two scruples of the chloral for every four square inches of plaster, care being taken not to incorporate the chloral with the pitch.

Phosphorus Pill.—In the *British Med. Jour.* of Nov. 11, p. 641, Mr. Wm. Martindale gives the following directions for making pills of phosphorus with the oil of theobroma, which he recommends to be used when patients cannot be got to take phosphorized almond oil. One *per cent.* of phosphorus may be combined in the following way: Having melted the oil contained in a wide-mouthed bottle placed in a water-bath, add the phosphorus, and, partly closing the mouth of the bottle, heat till this too melts and the temperature of the mixture becomes about 180° Fahr. Then cork it tightly, and with a little brisk agitation the phosphorus will dissolve almost immediately. Allow the fluid to cool and solidify; and having in this condition divided it into suitable lots for rolling, beat each in a mortar before applying it to the machine, and work off quickly. A three-grain pill will contain one thirty-third of a grain of phosphorus. They may be coated with a solution of sandrac in absolute alcohol in the following manner: Place the pills in a covered pot and pour upon them a few drops of the solution, agitate well and turn them out upon a slab, separate them from each other, and allow them to dry in the air.

Treatment of Acute Articular Rheumatism by Cyanide of Zinc.—This remedy, suggested some time since by Luten, of Rheims, has lately been employed with success by Deschamps, who recommends the following formula:

℞ Zinci cyanidi.................... gr. 1/12.
Pulv. acaciæ,
Sacch. lactis.................... āā q. s.
M. Ft. in pil. j.

To be taken to the number of ten in twenty-four hours.

Russian Medical Service.—On the 1st of January last the Russian army had 2,102 surgeons, 6,887 assistant surgeons, 173 veterinary surgeons, and 250 apothecaries; being a ratio of one surgeon to every 407 men, one assistant surgeon to every 161 men, and an apothecary to every 3,454 men.

Medicine in Burmah.—It appears that surgeons and surgical operations are unknown in Burmah; but physicians are divided into three orders: Those who use mineral or vegetable medicines; those who attribute all diseases to some derangement of the elements which constitute health, and trust chiefly to the effect of diet; and thirdly, the "witch-doctors," who proceed by spells and incantations. Fees range from eight annas to five rupees a visit; or sometimes the patient adopts the principle of payment for results, when a successful cure often brings a large reward.

Inferior Character of Troy Weights in Use.—The writer of an editorial article in the numbers of the *Medical Record* published during December, makes some astonishing statements regarding the character of the weights used by a few of our leading apothecaries in the dispensing of active medicines. We publish a few of them, and recommend our readers who are interested in this matter to read the balance of the articles in the *Medical Record*.

A set of German weights offered for sale by a prominent firm gave the following result:

Nominal Weight.	Actual Weight.
¼ grain,	.35 grain.
½ "	.90 "
1 "	1.10 "
2 "	2. "

A set of American make, of seven pieces (cost 9 cents) had a ¼ grain piece which weighed .29 grains. An examination of the weights in actual use by an apothecary in this city showed this:

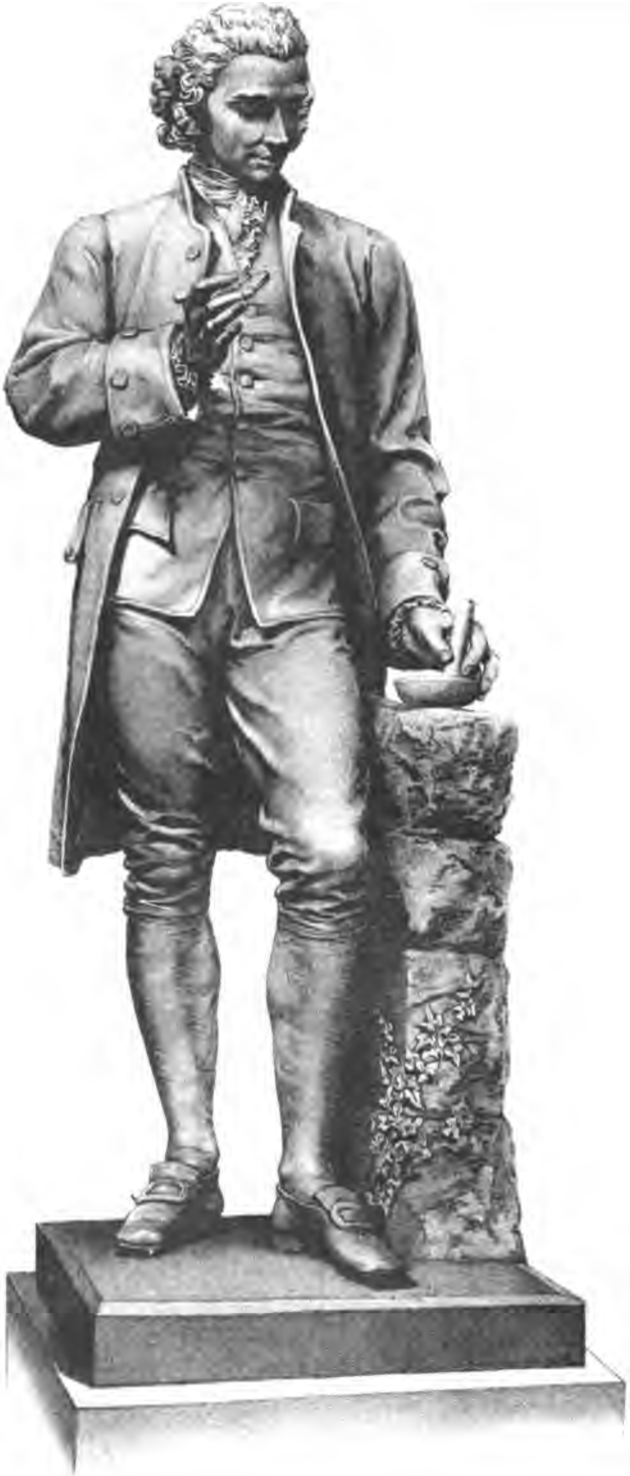
Nominal Weight.	Actual Weight.
3 grains.	2.75 grains.
4 "	2.73 "
5 "	3.80 "
6 "	4.43 "
480 "	458.85 "

At another store eight or nine small weights gave these comparisons:

Nominal Weight.	Actual Weight.
3 grains.	3.15 grains.
4 "	4.35 "
6 " .	5.10 "

The writer of the article says:

"At this store we also found a small German saddle-scale, graduated from .1 to 5 gr., in which the arm carrying the saddle was .2 gr. lighter than it should have been; consequently, if half a grain of morphine had been ordered, .3 gr. only would have been furnished, or, if .3 gr. had been ordered, .1 gr. only would have been weighed. At a third store we found everything as it should be; but at a fourth the proprietor declined to permit us to examine his weights. He said that he knew they were all right, because he had used them for several years. The two shops we first visited, and in which the defective weights were found, are situated in prominent thoroughfares, and enjoy first-class patronage. These few examples are of course not conclusive, but they permit a fair inference that a large proportion of the prescription weights used in this country are inaccurate, and many of them seriously so. We have made inquiry of several apothecaries as to whether their weights were regularly examined by the Inspector of Weights. The uniform reply has been, that their avoirdupois weights were inspected, but that their prescription weights were not. We see, then, that if we buy a pound of bird-seed, there is every prospect of our getting accurate weight; but with strychnine or atropine the case may be very different. We have been further assured by an apothecary, that, in a prominent store in which he was once a clerk, there was not a balance in the establishment that would turn with less than three grains, and that it was the custom to *estimate* all smaller quantities. Another apothecary states that he knows of a store in which there are no Troy weights over half an ounce, all weighing above that amount being done with avoirdupois."



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NEW REMEDIES.

AN ILLUSTRATED MONTHLY TRADE JOURNAL OF
MATERIA MEDICA, PHARMACY AND THERAPEUTICS.

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PUBLISHERS' NOTICES.

THE edition of NEW REMEDIES this month is 7,000 copies.

SEE copy of the fine steel-plate of Dr. Priestley in this number.

NEW REMEDIES is the only journal in the Drug Trade which is illustrated.

BE SURE to read the department of "Recent Papers" in this journal; it is in small type, and contains in a nutshell the gist of new articles in foreign journals.

ANY subscriber who may receive an extra number of NEW REMEDIES will confer a favor by handing it, with such recommendation as the Journal deserves, to some other person who might be interested in it. We want all the friendly aid we can get to increase our list of subscribers.

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THE Publishers of NEW REMEDIES invite correspondence with reference to its value as an advertising medium.

OUR department of "Sundries" is becoming crowded. Those who have *novelties* they wish noticed, will send them in as early as possible for prompt attention.

EDITORIAL.

THE majority of our readers will remember quite well that the centenary of the discovery of oxygen by Dr. Priestley was celebrated on the 1st of August, 1874, at Northumberland, in Pennsylvania, and many of them will also recollect that on the same day a statue of him, in marble, was erected at Birmingham, England. This statue, by an English sculptor, is the subject of an engraving which we have the pleasure of presenting to our subscribers with this number, there being a special propriety in offering as our first portrait, that of one who has been called "the father of modern chemistry." In this connection it may not be amiss to give a brief sketch of some of the important events in his life.

Dr. Joseph Priestley was born at Fieldhead, in Yorkshire, on the 13th of March, 1733, and was the son of a cloth-dresser. In the holidays during his attendance at the free grammar-school, in which he obtained his preliminary education, he learned Hebrew and acquired a knowledge of Chaldaic, Syriac, Arabic, French, Italian, and German. Following an academic course in a dissenting school, he became a theologian, and, still later, the pastor of a large congregation in Leeds. While here he experimented and wrote much upon languages, theology, and physics, and it was during this period of his life that he published, by the advice and with the assistance of Dr. Franklin, a treatise on the "History and Present State of Electricity, with Original Experiments," which gained for him the degree of LL.D. from the University of Edinburgh. Other scientific papers were on the "History and Present State of Discoveries Relating to Vision, Light, and Colors," "Water Impregnated with Fixed Air," and "Observations on the Different Kinds of Air." The latter was rewarded by the Copely medal, the highest honor of the Royal Society, which elected him a member. During this year (1772) he discovered oxygen, which he called dephlogisticated air; showed that the changes which take place in the color of the blood is due to oxygen; demonstrated the abstraction of oxygen from the air during combustion and putrefaction, and recognized the properties of vegetables to restore oxygen to the air. He also discovered nitrous oxide gas, carbonic oxide gas, sulphurous oxide gas, ammoniacal gas (which he called alkaline air), and hydrochloric acid gas; and he was the principal inventor of the pneumatic trough.

In 1791, through the excitement caused by his religious publications, he was obliged to remove from Birmingham, where he was then living; and still later he left the country altogether, and came to the United States, landing in New York on the 4th of June, 1794. In this country he took up his residence with his son, a farmer in Northumberland, Pa., and continued his studies and writings until shortly before his death, which occurred in 1804. A list of his productions, compiled in the library of Congress for the recent Centennial celebration, enumerated more than three hundred published books and pamphlets on chemistry, history, theology, metaphysics, physics, politics, and miscellaneous subjects.

The figure from which the engraving was made is of colossal height, and represents the philosopher in the dress of his period. On a kind of pedestal by his side rests a cup in which he supports an inverted test-tube with one hand, while with the other he holds a burning-glass, the rays from which he is engaged in focusing on the tube and its contents. We are indebted to the *Art Journal* as the source of our illustration.

OUR English pharmaceutical brethren appear to be always in trouble. When they are not inventing and enforcing restrictions on the admission of new men into the business, they are battling with the doctors on the subject of "counter prescribing;" or, when a lull occurs in this feud (which has become a stand-by), they are exercised about the public analysts. Anon some belligerent doctor brings wholesale charges against them, that they give short weight, and an irate ant-hill could not be more lively than they become. Just now they have succeeded in starting a Mutual Defense Association, and are prepared to settle down with all the dignity of a corporate organization, when it is discovered by some ne'er-do-well that "milk of sulphur" is more than half plaster-of-Paris; and although, for generations almost, the British Public (with a capital P) has used, approved of, and flourished on the compound, and utterly refused to be wheedled into buying or taking the sulphur without the plaster, we have thunder out of a clear sky in the shape of a number of indictments and one conviction for selling adulterated sulphur. But the end is not yet reached, for another trouble looms up on the pharmaceutical horizon. Several months ago we commenced to hear grumblings and complaints from the "elect" in regard to the wicked ways of the co-operative stores. We have some of these institutions in this city, where subscribers to the fund can purchase supplies of all kinds at their wholesale cost, *plus* the expense of running the concern; but we have not yet heard that they have included the dispensing of medicines. We have little doubt that they will, if there is ever enough general sickness here to give either the doctors or the druggists anything to do; as it is, the temporary salvation of the latter is owing to the appalling healthfulness of the community.

For some time the sale of patent medicines, toilet articles, soda water, and the multitude of little traps which the pharmacist has gladly resorted to in order to support the expense of carrying on his legitimate business, has been taken up by the fancy stores and, indeed, by some which are of higher grade in the business scale, and the following list, which we made up a few days ago from the show-case of one of the favorite establishments where ladies do their shopping, although incomplete, is still sufficient to show the tendency of the age:

Spikenard Ointment,
Schenck's Mandrake Pills,
Dalley's Pain Extractor,
Mrs. Winslow's Soothing Syrup,
Magic Cure for Chills,
Carbolate of Iodine Inhalant,
Carbolic Salve,
Brandreth's Pills,
Ayer's Cathartic Pills,
Rigolot's Mustard Paper,
Laird's Bloom of Youth,
About half a dozen hair restorers,
and soaps, perfumes, cosmetics, etc., etc., *ad libitum*.

At this store every purchaser to the extent of a small amount, used to get as a premium during the summer a glass of soda water. It apparently requires but one move more to include the "Operating Chemist" with his dispensing counter and bottles of colored water.

This is what one of our English contemporaries says about the state of things on his side of the ocean:

> "In all patented articles, either for the toilette or otherwise, the [co-operative] stores still have an undeniable advantage over the shops; and this is also the case in respect of patent medicines, drugs, and making up prescriptions. The reduction of price in these things varies from one-half to one-third. But this is because the chemists and druggists are reluctant to relinquish their enormous profits, and have not yet opened their eyes to the fact that they are gradually driving their custom from their doors. If any enterprising druggist were to start a couple of shops with a guarantee that qualified assistants should dispense pure drugs at co-operative prices, he would be certain of well-merited success."

To judge from the remarks of the same authority, it is the surly and slovenly character of the service at the co-operative stores which alone prevents their more general patronage.

A bad feature of their case is the fact that the British pharmacists seem to have entered into an agreement with the Public some time ago, that the protection of the interests of the latter required that restrictions should be placed around the sale of "poisons" and the dispensing of medicines. Whatever advantage accrued to the Public, it was quite certain that, to a limited extent, it gave a monopoly to the pharmacists, and many of these troubles seem to have grown out of this form of class legislation. We are glad that our pharmacists have escaped these dilemmas, and hope that they will have the wisdom to avoid the cause.

NOTHING of a therapeutical character has made such an excitement among the non-professional public for years as General Pleasanton's Blue-Glass Cure is creating just now. It is *the* topic in social circles, and a house with a southern window is not considered to be furnished until it has a foot-square of blue glass suspended in it. The experiments are said to be most popular among those ladies whose adipose tissue is rather scant in comparison with their osseous development, and great things are in anticipation. Now is the chance for some of our pharmaceutical friends to make hay while blue sunshine is in fashion.

IT will be remembered by some, that three years ago a bill was passed to regulate the practice of medicine and surgery in this State, and although it was ostensibly in the interests of the non-professional class, still, as is generally the case in so-called "medical legislation," the trouble and expense of bringing offenders to justice were thrown upon the respectable members of the profession. It could not be said then that they had pecuniary motives for prosecuting the scallawags, whatever may have been the criticisms; but the bill which is now before the Legislature not only requires the presidents and secretaries of medical societies to assume the duties of the district attorney, but it provides for the paying of the fine into the treasury of the prosecuting society.

We do not know with whom these bills originated, but we earnestly wish they could be brought to the understanding that respectable physicians need no protection from quacks, and be led to comprehend that it is none of the business of doctors to do the work of the district attorney's office.

Another point worthy of comment is the requisition of a fee for registering the names of those whom the public are supposed to be safe in trusting. Perhaps the wise men at Albany think that the doctors are to make so much money out of their prosecution of the "unqualified" that they ought to divide the spoils.

WE regret to learn that the Massachusetts College of Pharmacy has suffered severe losses from fire, which occurred early on the morning of January 23d. A large portion of the collections and library have been destroyed or damaged, but it is hoped that the insurance may cover the losses. Aid has been tendered from other schools, to enable their sister college to complete her course; and when the next session begins, we expect to see our Boston friends owning their own home.

MATERIA MEDICA.

Theobroma Cacao, and the Detection of the Adulterations of Oleum Theobromæ.

THE tree which furnishes the cacao-seeds of commerce, is a native of the moist woods of the northern parts of South America and of Central America, as far as Mexico. It belongs to the natural family of Buettneriaceæ (or Sterculiaceæ, Lindley,) and attains a height of from twelve to twenty feet. Its fruit is an oblong-ovate capsule or berry, 4–5 inches long, and 2–2½ inches thick, tapering off above, provided with 10 prominent longitudinal ridges, has a yellow or scarlet color when fresh, and a brown color when dry.

The tree bears flowers and fruit at all seasons of the year; these grow out of the trunk and thickest part of the boughs. The little yellow flowers are in clusters, and the fruit when ripe is of a beautiful orange color. As the plant cannot bear the intense heat of a tropical sun, it is shaded by rows of loftier trees, as bananas, or more frequently the Erythrina or Corallina, called by the Spaniards madre de cacao, a tree with superb red blossoms.

The thick coriaceous rind encloses a soft, colorless, sweetish pulp, in which the seeds are imbedded. The latter are ovate, slightly compressed, and consist of an exterior chartaceous, brittle shell, and a brown, or brownish-red oily kernel, devoid of albumen. These seeds constitute the cacao or chocolate-nuts of commerce, and are the source of oleum theobromæ or cacao-butter employed in pharmacy. This substance having been the subject of many complaints during a number of years, the American Pharmaceutical Association in 1875 propounded the following query:

"There is reason for believing that our Oleum Theobromæ is largely adulterated. How can the adulterations be detected, and to what extent do they exist?"

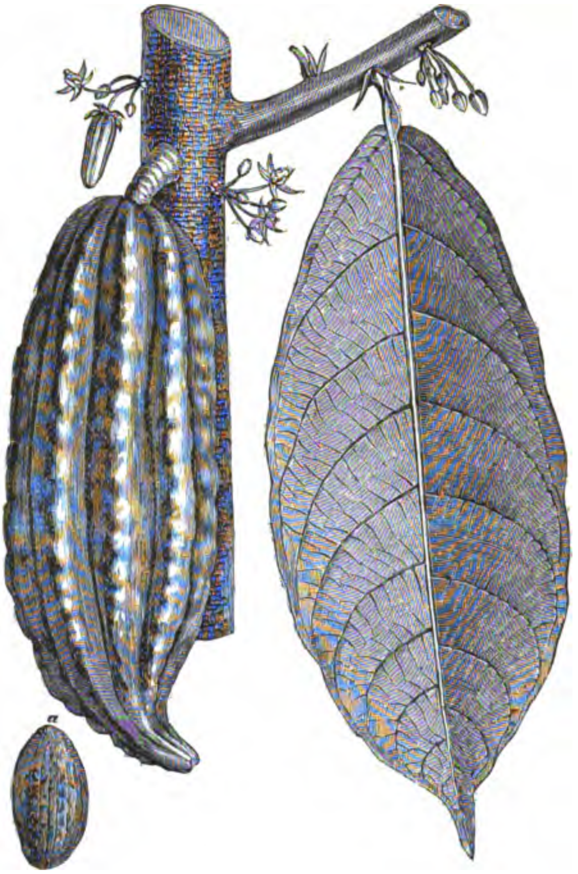
In answer to this query Mr. Gustavus Ramsperger of New York presented the following paper, which we reprint from the *Proceedings of the Am. Pharm. Assoc.* for 1876.

"The answer to this query is somewhat difficult, as there seems to be no perfectly reliable criterion by which to distinguish the adulterated cacao-butter from the pure. The statements in the books of reference are conflicting, and differ in essential points. The U. S. Pharmacopœia gives no test for purity, neither does Wood & Bache.

The Pharm. Germ. says: "Sit e subflavo album, odoris exigui proprii, saporis mitis, sebo ovillo rigidius, calore 30° liquescens."

The Pharm. of Würtemberg puts the melting-point at 40°, the specific gravity at 0.89–0.91. The Pharmacop. Belgique gives as the density 0.810. Dorvault's Pharmacie Légale gives the melting-point as 24–25° C., and directs that ether be used for detecting adulterations, pure cacao being easily dissolved in 2 parts of ether at common temperature, the solution remaining clear, while, if adulterated with tallow or wax, the solution becomes turbid.

Fehling's 'Handwörterbuch der Chemie' gives similar directions, and adds that if the solution gets turbid at 0° in less than ten minutes, the cacao-butter is adulterated, "the solution of pure cacao-butter shows turbidity only *after* ten or fifteen minutes, such turbidity disappearing again at 19–20° C." According to Hager, pure cacao-butter is soluble in six parts of anilin, and from the clear solution the cacao-butter separates as a clear liquid layer; if the cacao-butter contains tallow, then crystals and grains will separate.



Theobroma Cacao.

Gmelin gives the specific gravity as 0.89–0.91, and the melting-point at 29–30° C.

Klencke in his "Verfälschung der Nahrungsmittel" puts the melting-point at 24–25° C., that of beef-tallow at 30°, of mutton-tallow at 35°, and of ox-marrow at 37°, but considers the melting-point as no sure criterion. He says that drops of pure liquefied cacao-butter dropped into warm water, remain more or less globular, but if the cacao-butter is adulterated with animal fat, the drops flatten, assuming a lenticular or discoid shape.

Muspratt gives the specific gravity as 0.90, but thinks it is not a test of purity.

The *American Journal of Pharmacy* (vol. xxiii., p. 16), gives the melting-point at 76° F., the congealing point at 60° F.

Mr. Henry W. Lincoln, of Boston, in a very interesting essay on this subject in the Proceed. Am. Pharm. Assoc. of 1867, mentions also the test of dropping the cacao-butter into warm water, and further says: "The best test, however, for any adulteration of cacao-butter, is a cultivated taste, such as is only acquired by practice, similar to that employed by dealers in teas and wines, and can hardly be described. The point of fusibility is its first distinction. Bitten and placed on the tongue, it melts quickly and leaves no harsh taste, which it always does when adulterated with wax, spermaceti, tallow or stearin. Dropped on a warm iron, it gives out its odor, and if adulterated largely, the peculiar odor of the article with which it is adulterated will be prominent. There is no doubt that it is sometimes largely adulterated, but although the writer has procured samples from various sources, he has not been able to find any that seem to be adulterated to any great extent, and he is confirmed in this by Dr. Hayes, of Boston." Dr. Squibb, in a discussion about suppositories during the convention of 1870, makes a rather sweeping statement in saying "all the cacao-butter which is made is adulterated."

Hager & Jacobsen's "Industrieblätter" recommends the following method for the discovery of adulteration of cacao-butter: The butter is formed into candles; these are lighted, and then the light blown out, when an adulteration by tallow will be discovered by the smell. This is a more troublesome, and, as I found out by experiments, not more reliable test than the dropping on hot iron, recommended by Mr. Lincoln.

This is about all the information of any importance which I could gather as a guide to find out the best test for the purity of oleum theobromæ.

My experiments I began by preparing a quantity of pure cacao-butter from Caracas beans by three different methods: expression, extraction by ether, and by bisulphide of carbon. The extraction by ether is less practical than by bisulphide of carbon, the former extracting with the fat a purple-colored matter, while the latter extracts the oil only.

To these three different portions of pure cacao-butter I applied some of the above-mentioned tests. In point of solubility in ether, and also in aniline, I found all three alike; not so, however, in their specific gravity and fusibility. The specific gravity of the first was found to be 0.850; of the second, 0.970; and of the third, 0.958. This great incongruity shows the unreliability of the specific gravity test. The melting-point of two specimens I found 31–32° C., of the other, 33–34° C.

Pure cacao-butter dissolves easily within a few minutes at common temperature in two parts of ether, forming a clear solution, which sometimes separates, after standing for awhile, into two clear layers, the heavier layer being the larger one. My experiments with butter of cacao and anilin (anilin from two different factories) gave a different result from that indicated by Hager. I found one part of butter of cacao soluble in two parts of anilin (not in six parts only), but the solution neither in the first mentioned nor any other proportion ever separated into two layers. It is clear, but when concentrated, somewhat thick, like very thin jelly. On account of this jelly-like appearance of the concentrated solution, anilin is not quite so good a test for adulteration of butter of cacao with paraffin; the latter is a little soluble in anilin, the solution or mixture having a semi-transparent, gelatinous appearance. In ether paraffin is not soluble at a temperature below 40° C. At this temperature ether makes a perfectly clear solution, which at 35° C. congeals, and even diluted with ten parts of ether forms a homogeneous, somewhat crystalline, and solid magma.

Having tested the pure ol. theobromæ, I made mixtures in different proportions of it with several animal and vegetable fats, as beef and mutton tallow (freshly rendered and old), ox-marrow with beeswax, Japan wax, Myrica wax, and spermaceti, and also with paraffin; then made solutions of them with different solvents, as ether, anilin, chloroform, bisulphide of carbon, oil of turpentine, and absolute alcohol, and subjected the mixtures and some of the solutions to the above-mentioned tests. As a result of this great number of experiments I found that none of these tests are infallible, but that several taken together would be a tolerably sure indication of the purity or adulteration of oleum theobromæ.

The best test I found to be ether. It indicated all admixtures which I had made to the cacao-butter, with the exception of ox-marrow, either directly by the turbidity of the solution of one part of the adulterated cacao-butter in two parts of the ether (as is the case with the adulterations by tallow, bees'- and bayberry-wax, and paraffin), or if not immediately after solution, then by becoming turbid after standing for some time, and by forming little crystals and grains by spontaneous evaporation of the solution, which crystals are not soluble again in two parts of ether at common temperature (this is the case with Japan wax and spermaceti, with or without the addition of ox-marrow). Anilin shows adulterations with tallow and wax almost as well as ether. The other above-mentioned solvents cannot be used as tests; all the different fats and wax being easily soluble in them, with the exception of bayberry-wax, which makes a clear solution only with chloroform.

Next to ether and aniline the taste seems to be the most reliable test. The dropping on hot iron or burning the mixtures with wicks, does not show plainly enough an adulteration with 25 per cent. of tallow, and of freshly rendered beef tallow; even 50 per cent. could hardly be recognized. With Klencke's test I did not succeed; I was very seldom able to see any difference in the shape of the drops of cacao-butter from that of tallow or ox-marrow drops on water; the former expanding dish-like over the surface of the warm water about as much as the latter.

The specific gravity is unreliable—as I have shown already. The same seems to be the case with the point of fusibility as a test; at least I found that recently-melted and recongealed cacao-butter melts at a temperature several degrees lower than such as had been melted several weeks before. This may account for the conflicting statements about this point. Guided by the results of the experiments made, I examined a dozen specimens of oleum theobromæ which I had collected in different wholesale and retail stores. The result was as follows:

No.	Specific Gravity.	Melting-Point.	Test.	Solution in Ether or Anilin.
1	0.850	31° C.	Pure.	Clear.
2	0.897	33° C.	Pure.	Clear.
3	0.900	31° C.	A little rancid.	Clear.
4	0.874	30° C.	Pure.	Clear.
5	0.976	34° C.	Not quite pure.	Turbid.
6	0.938	32° C.	Pure.	Clear.
7	0.979	34° C.	Very little rancid.	Clear.
8	0.875	34° C.	Strongly rancid.	Very turbid.
9	0.978	30° C.	Pure.	Clear.
10	0.872	35° C.	Pure.	Very little turbid.
11	0.919	33° C.	Pure.	Clear.
12	0.959	30° C.	Rancid.	Clear.

This shows two or three adulterations among the dozen, one of them with tallow plainly recognizable.

In concluding I must confess that the result of my labors is not quite satisfactory, because I did not succeed in finding a sure test to distinguish ox-marrow from cacao-butter in the mixtures; but I shall continue my researches, and communicate the result, if any, at some later time."

The Manufacture of Cocoa.

As a companion to the above paper by Mr. Ramsperger, we quote the following portions of an interesting article on the manufacture of cocoa, which appeared in the *Hand and Heart*, and was copied by our contemporary, the *Chemist and Druggist*.

It appears that the Spaniards were the first Europeans who tasted chocolate: it was part of their spoil in the conquest of Mexico. Bernardo de Castile, who accompanied Cortez, describing one of Montezuma's banquets, says: "They brought in among the dishes above fifty great jars made of good cacao, with its froth, and drank it," and similar jars were served to the guards and attendants "to the number of two thousand at least." Gage, an old traveller, who had visited the tropics, writing in 1630, remarks: "Our English and Hollanders make little use of it when they take a prize at sea, as not knowing the secret virtue and quality of it for the good of the stomach."

In the reign of Charles II. it was so much esteemed in England that Dr. Stubbe published a book entitled "The Indian Nectar; or, a Discourse concerning Chocolate, &c," giving a history of the article and many curious notions respecting its "secret virtue," and recommending his readers to buy it of one Mortimer, "an honest though poor man," who lived in East Smithfield and sold the best kind at 6*s.* 8*d.* the pound, and commoner sorts for about half that price.

Linnæus was so fond of chocolate that he called it food for the gods in the distinguishing name he gave to the tree that produced it—Theobroma Cacao.

The nuts are taken from the pod as soon as collected, and covered with a layer of sand. This causes a fermentation, which develops the aroma and takes off the natural bitterness of the nut. They are then spread out to dry in the drying or curing house. This house consists of a strongly built span roof fixed with wheels, running on iron rails laid along a stout framework, which supports a platform, underneath and upon which the cacao beans are dried.

Prior to 1831 the quantity of cacao annually consumed in England had not reached half a million pounds, whereas it now amounts to over nine millions.

The bags of cocoa, as they arrive from the docks, are stacked up in large piles. They come from different parts of the world—from Trinidad, Grenada, Caracas, Carupano, Surinam, and even from Africa, and there are a few other choice and special varieties.

These cocoa nuts or beans are carefully sorted, and the unsound ones rejected; they are then placed in rotating cylinders and subjected to a gentle heat over coke fires, until the full aroma is properly developed. When cooled they are passed to another room, in which machines are arranged for breaking the now crisp, roasted nut into the irregular segments into which the kernel is naturally divided. The next process is to remove the outer husks by means of a powerful blast. The rich glossy kernel that remains is known in the market under the name of cocoa nibs. The husk or shell is used as a light, but by no means unpalatable table decoction, under the designation of "miserables."

The cocoa nibs are next ground between stones which are arranged like those of a flour-mill, and the stones being heated the nibs are reduced to a creamy fluid, which flows into pans placed to receive it. When quite cold this will turn out a perfectly hard, firm cake. The best cocoa contains about fifty per cent. of natural cocoa oil or butter, and this has been found to be far too large a proportion for ordinary digestions. Dr. Muter says: "The only objection which can and does exist to its use in a state of purity is the excessive proportion of fat, which renders it too rich for most digestions, and gives, unfortunately, a colorable excuse for its adulteration."

The removal of two-thirds of the butter is accomplished by means of very powerful and complicated machinery, the result being an impalpable powder, soluble in boiling water and possessing the nutritious gluten and stimulating theobromine in an increased ratio; and this product is called, by the Cadbury Brothers, who are extensive manufacturers in Birmingham, "Cocoa Essence."

Still there is a demand for cocoa that thickens in the cup; and this comprises a second branch of manufacture. A given portion of the liquid cocoa is poured into a large steam-heated pan, and weighed with the sugar, arrow-root, etc., which of course differ in kind and quality, according to the value of the chocolate powder required. Strong iron arms are then set in motion, which so completely levigate the mass that in a few moments it is reduced to a powder. These chocolate powders are sold under the names of Homœopathic, Iceland Moss, Breakfast, etc.

The third branch of manufacture yet to be noticed is that of sweet chocolate for eating and drinking; and here again we have numerous varieties. In the first place the pure cocoa is incorporated with white sugar in what is called a "mélangeur." This is a round stone basin in which the cocoa and sugar are placed, and which revolves at a great speed, while two heavy stationary rollers bruise the mass until it becomes of about the consistency of dough. From these mélangeurs the mixed substance is at once passed through machines with three granite cylinders which crush it still finer, and in this state it is ready for moulding into the various shapes and sizes for sale.

The best chocolate is flavored with vanilla, which is the fruit or seed-pod of one of those beautiful species of the family Orchidaceæ that flourish in tropical America. The stems climb to the height of twenty or thirty feet, twining round the trunks of trees, and throwing out a profusion of aërial roots, some of which eventually reach the ground. It seems specially adapted for flavoring chocolate, and is used principally for that purpose.

Cocoa carefully selected and prepared in this way certainly forms the most delicious of all beverages or confections.

On the Distribution of Cardiac Poisons in the Vegetable Kingdom.*

(Continued from the January Number.)

3. RANUNCULACEÆ.

THE only known cardiac poison existing in this family is helleboreïn, occurring in *Helleborus viridis* L., *H. niger* L., and *H. fœtidus* L., and accompanied by the narcotic glucoside helleborin.† According to Schroft's investigations, the same glucosides, or at least very similar bodies, appear to exist in many other species of Helleborus. A closer examination of the latter would be highly interesting, as it might throw some light upon the history and action of *Helleborus orientalis* Lam., which was the cardinal remedy for psychical affections among the Greeks, and the reputed brilliant effects of which are unattainable with the ordinary species mentioned above.

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* Abstract of a paper by Prof. Th. Husemann, of Göttingen, in *Archiv der Pharmacie,* Nov., 1876.

† See "*Pflanzenstoffe,*" pp. 796–800.

Nearest related to Helleborus is the genus Eranthis, the sole representative of which, *Eranthis hiemalis* Sal., was included in the genus Helleborus by Linné. Vauquelin found in it a soft resin, which he called helleborin, but it remains very doubtful whether this plant contains any glucosides analogous to those of Helleborus.

There is hardly occasion to suspect any cardiac poisons in other members of the sub-class Helleboreæ, although some of them are decidedly poisonous, as for instance, *Caltha palustris* L., which contains, according to Spiritus (1827), an acrid poison acting upon kidneys and skin, while other species of Caltha, as *C. Cadua* Ham., and *C. Bishma* Ham., are more probably to be referred to the genus Aconitum.

4. LEGUMINOSÆ.

Only quite recently has there been found a cardiac poison among this family. It is a proximate principle contained in the bark of *Erythrophlæum Guineense* G. Don. (*E. judiciale* Procter), growing near Cape Palmas and in Sierra Leone, and used by the natives as an arrow poison and in ordeals.[*] It is also known as Mancona bark or Teli. Gallois and Hardy discovered in it an alkaloid[†] acting similarly to Digitalis. Their physiological experiments, however, were not made with the pure principle, but with the extract, and an exhaustive chemical analysis of mancona bark has not yet been made. Although the sub-order Papilionaceæ, which is so rich in esculent plants, contains more poisonous individuals than is generally supposed, we have no reason to suspect in it the presence of any cardiac poisons. Erythrophlæum is included in the third sub-order of the Leguminosæ, the Mimoseæ, and is nearest related to the genus Parkia, species of which furnish the so-called Sudan Coffee. A few Mimoseæ are emetic; so the root of *Adenanthera Pavonina* L., growing upon Hayti. The bark of *Pithecolobium salutare* Benth., of Columbia, is diuretic; and *Malvia judicialis*, of Mozambique, is used, like mancona bark and calabar bean, in ordeals.

Of domestic Leguminosæ, only a few deserve investigation. *Ononis spicata* L., is known as a diuretic, and contains a glucoside, ononin,[‡] which, however, does not appear to have any cardiac effects. The same may be said of scoparin, the supposed active diuretic principle of broom, which contains besides an alkaloid, sparteïn, certainly not a cardiac poison.

5. ARTOCARPEÆ.

From this family[§] we have to mention only one representative, the *poison-tree* of Macassar, *Antiaris toxicaria* Lesch., containing a glucoside, antiarin, which is the active principle of the well-known Asiatic arrow-poison, *ántiar*, and forms probably also the main constituent of the arrow-poison "dayaksh," used by the Orangdayas or Dyaks, and of some other similar poisons used by the Yatruns and Mintras of Malacca.[*] Antiaris toxicaria appears to be the only Artocarpea which produces remote poisonous effects. Rumph, who first described the tree, mentions besides an "Arbor toxicaria femina" occurring upon Timor, which was named *Antiaris innoxia* by Bluhme, because it is said to be much less poisonous.

These five families of dicotyledonous plants are the only ones containing cardiac poisons, and if we were to judge from the great superiority in numbers of poisonous dicotyledonous over monocotyledonous plants, we would hardly expect any cardiac poisons among the latter. But we know with certainty two families furnishing representatives.

6. SMILACEÆ (Asparageæ).

The cardiac poison belonging to this family is convallaramin, existing in *Convallaria majalis* L., Lily of the Valley, alongside of the drastic purgative glucoside convallarin[†]). Whether other species of Linné's genus of Convallaria contain the same glucosides, remains to be investigated, but it is quite probable. The flowers and berries of *Convallaria Polygonatum* L., the root of which was used for a long time as medicine under the appellation "Radix Sigilli Salomonis," are emetic and cathartic; and the same is probably the case with *Convallaria multiflora*[‡] L. Another poisonous plant belonging to this family, and known from olden times, is *Paris quadrifolia* L., One Berry, or True Love, the berries of which were called in ancient medical works "baccæ *Solani* quadrifolii," showing that they were considered very active and efficacious. Our knowledge of the toxic action of this plant is, however, very limited, and the only reasons for suspecting it to contain a cardiac poison are its emetic effects, and the discovery therein by Walz of two glucosides, paridin and paristyphnin,[§] possibly analogous to those in Convallaria.

Two other species of Paris, growing in northern Asia, namely *P. obovata* Led., and *P. polyphylla* Sm., said to contain an acrid narcotic principle, are likewise deserving of investigation. To these must be added some North American Smilaceæ, related to the genus Paris, namely *Medeola Virginica* L., which, on account of its reputed emetic and diuretic effects, may possibly contain a cardiac poison, and certain species of Trillium, as *T. erectum* L., and *T. grandiflorum* Sal., possessing emetic properties, although in the latter the *acridity* of root and berries is mentioned as principal characteristic.

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[*] See NEW REM., v., 53, 272, 276.

[†] Prof. Husemann is somewhat astonished at the discovery of an *alkaloid* in this plant by Gallois and Hardy. He should have expected, and even yet suspects *glucosides*. See January number, p. 3.

[‡] *Pflanzenstoffe*, 675.

[§] Often counted as a sub-order (II.) of Urticaceæ.

[*] See Husemann, Handbuch d. Toxicologie. Supplement, pp. 62, 63.

[†] *Pflanzenstoffe*, 1041.

[‡] This is actually the case. See King's Dispensatory.—Ed. N. R.

[§] *Pflanzenstoffe*, 1042.

7. LILIACEÆ.

According to Prof. Husemann's own investigations, made with the Extractum Scillæ of the German pharmacopœia, this family contains an exquisite cardiac poison in *Scilla maritima* L., well known to be an active emetic. The cardiac principle is chiefly contained in the alcoholic extract, and is not identical with the commercial substance scillitin, which was found to exert no toxic action on rabbits, nor to affect the cardiac functions of the frog.

The family of Liliaceæ is known to contain a large number of congeners or surrogates of squill, principally belonging to the sub-order Asphodeleæ, and mostly included in the genera Scilla and Ornithogalum. Such are the East Indian *Scilla Indica* Roxb., the South African (Cape) *Ornithogalum Lassoni* Gm. and *O. scilloides* Jacq.; besides *Drimia altissima* Ker., which is used as a substitute for squills at the Cape; the South European *Agraphis nutans* Lk., and finally *Muscari moschatum* and other species of Muscari. The analogous therapeutic use permits the conclusion of analogous physiological action; in other words, to assume the presence in these plants of a principle augmenting the blood-pressure, and possibly also accounting for the diuretic action of *Anthericum ramosum* L., *A. Liliago* L., and *A. Liliastrum* L.

Still more weighty are the reasons for assuming the presence of a cardiac poison in the bulbs of *Fritillaria imperialis* L., belonging to the sub-order of Tulipaceæ, which appears certainly to belong to the acrid narcotics, as it is reported to produce emesis as well as trembling and subsultus in animals, and phenomena resembling conium-poisoning in man. Orfila has shown that the bulb of this plant produces no *local* effects, but that its action is altogether remote. The bulbs of *Tulipa silvestris* L. and *T. Gesneriana* L. act likewise as emetics, and *Erythronium flavum* Smith is said to have the same property. But it is not unlikely that in these last named plants the effect may be due to local irritation, as we are tolerably certain is the case with the best known poisonous liliaceous plant, *Gloriosa superba* L., superb lily, native of Ceylon and Malabar.

Although these two monocotyledonous families are the only ones which certainly contain cardiac poisons, Prof. Huseman is inclined to suspect the presence of others in the family of Amaryllidaceæ. Several exotic species of the genus Amaryllis have long been known as violent poisons, although our information is rather vague and uncertain. One of these is *Amaryllis disticha* L. (*Hæmanthus toxicarius* Ait.), growing at the Cape, the juice of which, inspissated by exposure to the sun, is said to be used by the Hottentots as an arrow-poison, and the bulb of which is used as a drastic cathartic, according to Rosenthal. The same uses and properties are ascribed to the Brazilian and West Indian *Amaryllis Reginæ* L., and *A. princeps* Vell. *A. Belladonna* L., another native of West Indies, is said to be an emetic, and in larger doses an active poison, 3 gm. of the dried bulb having been known to produce death in three hours. *A. Sarniensis L.*, the so-called Jersey lily, growing at the Cape, *A. equestris* Ait., the South American funnel lily, and *A. pudica* L., the red Cayenne lily, appear to have similar properties.

More probable yet is the presence of a cardiac poison in various species of the genus *Crinum*, as *C. Zeilanicum* L., and *C. Asiaticum* L., the latter being known, under the name bakoun, as a Malay antidote against intoxication by poisonous fish, crabs and serpents, or poisoned arrows. Both are held to be emetics, and *C. Zeilanicum* is used in China and Cochin China exactly like our squills. Several species of *Hymenocallis* and *Pancratium* partake of the same properties; of the latter particularly the Mediterranean *P. maritimum* L., the bulb of which has now and then been used as a regular substitute for squill, and was even known as "Radix scillæ minoris."

Of European Amaryllidaceæ, the most likely to contain a cardiac poison is *Narcissus pseudonarcissus* L., or daffodil, if we may draw a conclusion from the effects obtained by Orfila upon dogs; namely, repeated emesis, intoxication with consciousness, deep inspirations, falling upon the side, dyspnœa, and death free from convulsions. The same effect is probably inherent in *N. poeticus* L., cases of poisoning by which are on record; and possibly also in *Leucojum æstivum* L., *L. vernum* L., and *Galanthus nivalis* L.

All these facts make it probable that among the hitherto known, but unstudied, poisonous plants, there are many which must be classed with the cardiac poisons. At the same time, we see how fragmentary is our knowledge of the physiological action of plants, and how large a material for pharmacodynamic investigations remains to us for study. In conclusion, Prof. Husemann hopes that some of the problematical plants mentioned may be made the subject of closer investigation.

"Takout," or Tamarisk Galls.

PROFESSOR VOGL, of the Imperial University, Vienna, writes the following communication to the *Wiener Gerber*, which we copy from the *Chemist and Druggist* for January.

Amongst other North African drugs which were brought under the notice of the Pharmacological Institute of the Imperial and Royal University, through the medium of the late Vienna Exhibition, was a large sample of Tamarisk galls, from Morocco, entered under the name of "Takout." As these gall-nuts have lately attracted some attention on account of the large proportion of tannin they contain, a few remarks respecting them may not be out of place.

Taramisk galls are imported, not only from Morocco, but from Algeria, parts of Central Asia, and India. Gall-nuts are produced on most, if not upon all, species of Tamarisk, but those known in commerce, it would seem, are found upon one sort only, the *Tamarix articulata* of Vahl, or *Tamarix orientalis* of Forskal. The Morocco and Algerian Takout have this origin. Leared, in his memoirs on the drugs of Morocco, assigns them to *T. articulata*, Vahl. They are evidently the same as those described under the head of gall-nuts, in Prosper Albinus's discourse on the plants of Egypt. Probably, too, they are identical with the gall-nuts employed in Persia for industrial and pharmaceutical purposes. Hanbury and Flückiger state that the galls of *T. orientalis* are used in India as a substitute for oak-galls. These appear to be the same as those described by J. Wiesner ("Rohstoffe des Pflanzenreiches," p. 809), as known in India under the name of "Padwus," and a product of *T. Furas*. A sample in our collection, labelled "Bokhara Galls," the produce of *T. Furas*, agrees in all respects with the Morocco "Takout." The latter are also most likely the same as the "Bucharest Galls" described by Palm, which, under the name of "Busgunsh," are largely used for dyeing in Central Asia, more especially in the Khanates of Khokand, Khiva, and Bokhara.

The Morocco galls vary in size from a pepper-corn to a hazel-nut, or even larger, and present an infinite diversity of shapes, the greater number being egg or kidney shaped, lobed, oblong, or round, and of irregular contours. Their surfaces are rough and warty, of a dull earthen gray, with a shade of yellowish brown, or purplish or reddish brown, on one side. Sometimes they are yellowish brown on one side and brownish red on the other. They are hard; some of them, the large ones, brittle; friable between the fingers with a slight pressure; the smaller ones are imperforate, the larger have one circular perforation, by which the insect has made its escape in the perfect state. Their interior is of spongiform texture, of a yellowish or greenish brown color, containing a cavity of irregular shape. As in the Chinese and Japanese galls, traces of aphides and mould often occur in them.

The substance of Tamarisk galls is made up of an epidermis of close cellular texture, enclosing a parenchyma of small, fine-pointed cells, arranged polyhedrically or axially, and interlaced with strands of bark-like fibre, and a few pigmentary cells.

The cells of the epidermis contain a dry pigment, which is also found irregularly distributed in some of the cells of the parenchyma, together with a few rosettes of oxalate of lime. This pigment dissolves readily in water. With soda lye it gives a yellow dye, the solution forming a purplish glaze upon the surface by contact with the air. With salts of iron it gives an indigo blue. Dissolved in soda lye and treated with acetic acid, with the addition of a solution of chloriodide of zinc, it produces a deep blue color. The tannic principle in these galls closely resembles that in oak bark and valonia, whilst the same principle in Pistacia galls resembles rather that of oak galls and sumach.

Tamarisk galls exhibit no traces of fecula, and are apparently devoid of resiniferous and lactiferous ducts. The absence of these ducts distinguishes them from *Rhus* galls (Chinese and Japanese galls), and from Pistacia galls, *i.e.*, the leaf-galls of *Pistacia Terebinthus* and *P. Lentiscus*, which are largely collected in the East, and used for the same purposes as Tamarisk galls.

The latter are also distinguishable by their smooth surfaces, larger size, and the occurrence of a resinous balsam in their substance.

To the Pistacia class probably belong certain "Bokhara Galls," produced on *Pistacia vera*. At least, we have a sample before us formed on this species. These galls are round, ovoid, or oblong; their surface smooth, without corrugations, of a light yellowish red, sometimes shining, with a very thin, coriaceous, translucent, violet-brown cuticle, and a single perforation, the structure resembling that of the galls on *P. Terebinthus* and *P. Lentiscus*. The proportion of tannin in them is 32 per cent. In Tamarisk (Bucharest) galls, according to Palm, it is 43 per cent.

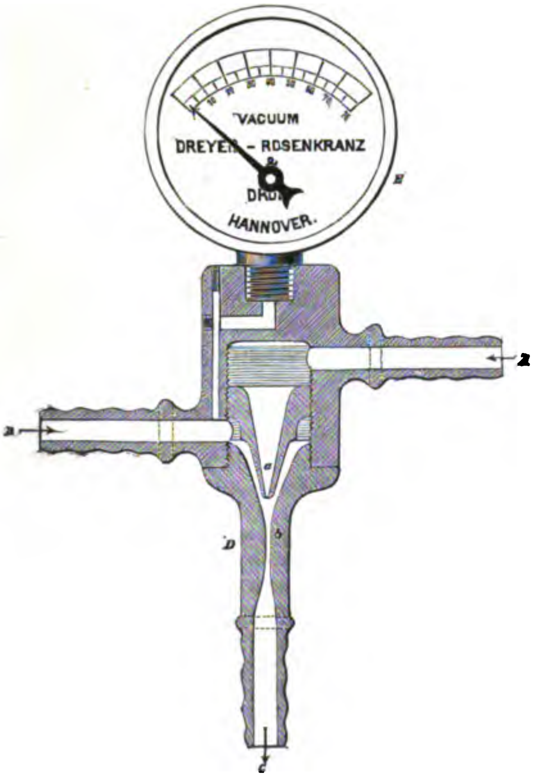
PHARMACY.

Carbolated Camphor.

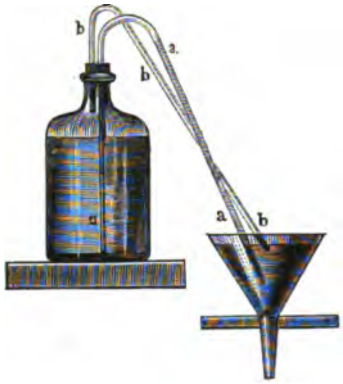
M. Soulez, in the *Bulletin de Thérap.*, gives the following formula for carbolated camphor and an account of its composition: Dissolve 2.5 grammes of powdered camphor in one gramme of a solution of carbolic acid (of the strength of nine grammes in six grammes of alcohol). The solution is of oleaginous consistency, pale yellow, smelling slightly of camphor, but having none of the disagreeable odor of carbolic acid. It boils at a slightly elevated temperature without decomposing, but appears to be decomposed by strong alcohol, which throws down the camphor in crystals. If a boiling solution of carbolated camphor be thrown into cold water, it instantly solidifies. It is miscible in all proportions with olive and almond oils. Chemical examination shows that the carbolic acid and camphor are not altered, and that they preserve their properties in the combination.

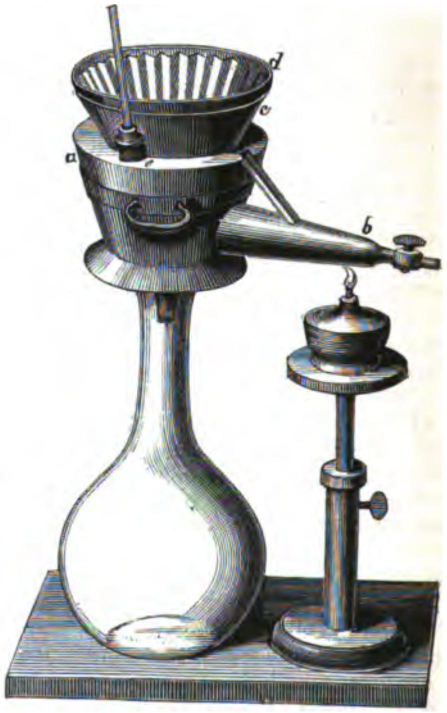
Filtering Apparatus.

Many of our readers are no doubt familiar with some of the modifications of the so-called 'quick filter' or 'rapid filtering apparatus,' the most perfect form of which is that introduced by Prof. Bunsen, and now used in most chemical laboratories. The action depends upon the fact, that a column of water descending through a tube from a considerable height, is capable of drawing after it the air contained in a side tube, provided the latter is attached in such a manner that the falling water can not enter it. The side tube communicates with a reservoir of air, which thereby becomes exhausted. Supposing this reservoir to be a flask provided with a doubly perforated stopper, of which one aperture carries a funnel with filter, while the other contains a short glass tube, connected with the side-tube of the 'quick filter,'—the air in the flask will become exhausted, and the pressure of the outer air upon the surface of the liquid in the filter will cause a rapid flow into the flask. There are of course a number of details to be attended to, such as strengthening the point of the filter, perfect attachment of the latter to the funnel etc., but it is hardly necessary to dwell upon these here. Our object is to describe a very handy form of quick filter, which was designed by Hermann Fisher for *water pressure* (not falling water), and to be used upon any portion of the work-table in the laboratory. *A*, *B* and *C*, in the annexed cut, are intended to receive rubber tubing, and the neck *D* may be fastened by a clamp to an ordinary retort-stand. The water entering at *A* passes through the inner nipple *a*, becomes mixed with the air which it attracts from the filtering apparatus through *B*, and after passing the contracted portion at *b*, flows off through *C*. Since it is desirable in many operations to control the amount of rarefaction, a vacuum gauge is attached to the upper portion. The apparatus is manufactured by Dreyer, Rosenkranz and Droup in Hannover, Germany, and costs ten marks without, and twenty marks with gauge.



While speaking of filters, we desire to recall to the minds of our readers that they might frequently save themselves a great deal of unnecessary labor, and even annoyance, especially when filtering a large bulk of liquid, if they were to use the well-known self-acting syphon-filter, on the principle of the one represented in the cut. It is almost needless to state that the tube *b*, which just dips below the surface of the liquid when the filter is full, permits the entrance of air into the bottle, as soon as the level of liquid in the filter descends; in consequence thereof the syphon-tube *a* refills the funnel until the orifice of *b* is again closed by the liquid.





Another form of filter, which is very convenient for the rapid filtration of oils, syrups and other viscous liquids, is the 'water-bath filter,' or 'hot filter.' This is an old contrivance, but appears to have fallen almost into disuse. It does not require any detailed description; but it will be sufficient to say, that in place of applying heat to the projecting tube *b*, a current of live steam may be introduced into it, by means of appropriate connections; the surplus steam being carried off by *e*.

New Method of Determining Sugar Volumetrically.

FOR the purpose of controlling the termination of the reaction in Knapp's method of estimating glucose (by means of mercuric cyanide), R. Sachsse employed an alkaline solution of stannous chloride, prepared by supersaturating a solution of the commercial tin-salt with soda. This reagent throws down mercury, from alkaline solutions, as a black or brown precipitate, according to the quantity of mercury present. A few drops of the reagent are placed into a small porcelain capsule, and one or two drops of the mercury solution are added: the least trace of mercury remaining in solution is indicated by the formation of a brown spot or cloud. At Sachsse's request, the method was critically tested by Brumme, who found that the results are not accurate; but the sharpness of the end-reaction led them to examine other mercurial salts, with a view of finding a suitable substitute for the cyanide, which they finally discovered in an alkaline solution of mercuric iodide. For this purpose, 18 gm. of pure and dry mercuric iodide, HgI_2, are dissolved in water by means of 25 gm. of potassium iodide; 80 gm. of caustic potassa dissolved in water are added to the solution, and the whole is diluted to 1,000 c.c. When using this reagent, 40 c.c. corresponding to 0.72 gm. HgI_2, are heated in a capsule to boiling, and the sugar solution is gradually added to it from a burette. It is best to make several determinations, using first, about 5 c.c. at a time; towards the end one c.c., and finally fractions of one c.c.

The value of the mercury solution was ascertained by titration with chemically pure glucose; 40 c.c. of the solution, which contain 0.72 gm. HgI_2, correspond to 0.15 gm. grape sugar. The advantages of this method consist in the easy preparation and durability of the solution, and the sharpness of the end-reaction, and finally another point, which requires some previous explanation.

It is well known that Fehling's solution reacts similarly with dextrose, levulose, and inverted sugar.* But since cases are known to occur, in which levulose and dextrose exhibit a different behavior towards oxidizing agents, the equality of the behavior of metallic salts towards these varieties of sugar cannot be assumed à priori to be the same under all circumstances, but must be demonstrated in each separate case. In the present instance it was ascertained that the behavior of the alkaline mercuric iodide solution towards inverted sugar differs altogether from that exhibited towards dextrose. While 40 c.c. of the solution correspond to 0.15 gm. of dextrose or glucose as stated above, the same quantity corresponds to only 0.1072 gm. of inverted sugar. This fact makes it possible to determine in a liquid not only the quantity but also the quality of the sugar; that is, to distinguish glucose from inverted sugar. For this purpose two determinations are necessary: in the first place, it must be ascertained how many c.c. of the saccharine solution are required to reduce 40 c.c. of the mercury solution; second, it must be determined, by means of Fehling's solution, how much sugar ($C_6H_{12}O_6$) is contained altogether in the same volume of saccharine liquid as has been used in the first trial. From both of these determinations two equations may be constructed in which the two desired values, glucose and inverted sugar, occur, and may be obtained in the usual manner. It will also be possible to ascertain whether a body contained in a liquid, and which does not directly reduce metallic oxides, is cane-sugar or dextrin. In the latter case the sugar must be inverted by means of an acid, and both of the just mentioned values must be determined. If inverted sugar is found, cane-sugar may be concluded to have been present originally; if glucose is found, dextrin was probably present.—*Zeitsch. f. anal. Chem.*, 1877, p. 121.

On the Purification of Zinc Sulphate.

PROF. FR. STOLBA recommends to deprive commercial zinc sulphate of the accompanying iron and manganese by the following method, which has been practically tested with great success. The impure salt is dissolved in 2 or 3 parts of distilled water, and heated in a porcelain capsule to the boiling point. Meanwhile, pure carbonate of zinc is rubbed with water to a fine thin milk, using about 1 part of the carbonate for every 100 parts of sulphate to be purified. Enough of this latter mixture is now added to the boiling solution of the sulphate to produce a milky opalescence, and a dilute solution of zinc permanganate is added in drops, under constant stirring, until the liquid shows a faintly red color, owing to an excess of the permanganate. To distinguish this point, it is best to interrupt the boiling and to allow the brownish precipitate of manganic oxide to settle. As soon as the tint of the permanganate is observed to remain, the liquid is again raised to boiling, and a further small quantity of carbonate of zinc is added, after which the color of the liquid is again examined. Should the reddish tint disappear rapidly, a further addition of permanganate is necessary, and in this manner both salts must be added in small quantities alternately, until, even after five minutes' boiling, the reddish tint remains, indicating that all oxides of iron and manganese have been precipitated.

The solution now still contains a small excess of zinc permanganate. This may be removed either by protracted boiling of the solution, in which case the water must from time to time be replaced, and milk of zinc carbonate may advantageously be added; or by adding to the solution a small quantity of the original impure sulphate, *just enough to discolor* the liquid. The liquid is now allowed to deposit, the clear portion filtered through *pure* filtering paper, and the sediment put on the filter last, to avoid closing the pores of the paper. Ordinary filtering paper is inadmissible, as zinc sulphate has a great tendency to carry with it coloring matters. Since the filtrate contains a small quantity of basic sulphate, which would separate on cooling, a few drops of concentrated sulphuric acid are placed into the vessel intended to receive the filtrate. The latter is evaporated until a pellicle forms, and set aside to crystallize. The mother-lye, on further concentration, yields a fresh crop of crystals.

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* *Dextrose*, $C_6H_{12}O_6$, also called dextro-glucose, or simply glucose, turns a ray of polarized light to the right; *Levulose*, which has the same composition as dextrose, differs from the latter by turning a ray of polarized light to the left. A mixture of both these sugars in equivalent proportions occurs in many fruits, and is called fruit-sugar or *inverted sugar*; this is laevogyre, as the rotary power of levulose exceeds that of dextrose.

In case a small percentage of potassa should not be objectionable in the resulting product, potassium permanganate may be employed instead of the zinc salts.

Zinc permanganate is prepared by the action of silico-fluoride of zinc * upon potassium permanganate. Equal parts of the two salts are weighed, and the potassium salt dissolved in just sufficient hot water. To this solution is added, under constant stirring, the crystalline zinc salt, until all crystals have disappeared, and the mixture is then set aside to cool. The clear liquid is afterwards carefully decanted from the sediment, which consists of potassium silico-fluoride, and kept in glass-stoppered bottles. For use it is diluted with five to ten parts of water.

Should the commercial zinc sulphate be *very impure*, it is better to recrystallize it once or twice, before employing the above described method of purification. It is also highly important to insure the absence of organic impurities, which may be attained either by filtration of the solution, or by a gentle ignition of the commercial salt. It should also be remarked that salts of cobalt or nickel cannot be removed by this method; but on protracted boiling of the solution with a piece of *bright zinc*, metallic cobalt and nickel are precipitated.—*Zeitsch. d. Oest. Ap. V.*, 1876, p. 555.

Detection of the Artificial Coloring of Wines.

THE practice of coloring wines by artificial means is so largely on the increase in France, that tests for the detection of this form of sophistication are becoming essential to the knowledge of the analyst. It is to be hoped that, in view of the increased difficulty of procuring sound wines from European sources, the producers of domestic wines will use every effort to insure their own wares reaching the consumer without having undergone any tampering either on the part of their agents or the retail dealers. The *Chemical News* gives, from a French source, a synopsis of a report by MM. Ballard, Pasteur, and Wurtz, on the methods of determining the nature of the coloring matter used, which reads as follows: To detect indigo, which is often used in the shape of sulphate, the authors add a little sulphate of potassa, and precipitate with chloride of barium. The sulphate of baryta, after filtration and washing, appears white if the wine is free from indigo, but if that dye is present it is a decided blue tint. Magenta is probably never employed alone in the fraudulent coloration of wines, but along with indigo it can be made to produce vinous reds. To detect this dangerous impurity, the authors agitate the suspected wine with a small quantity of amylic alcohol. This withdraws the dye, and collects upon the surface of the wine, where it forms a bright red stratum. If this rose-colored liquor is treated with a small piece of clean white silk, not mordanted, the latter takes the well-known shade of magenta, which turns yellow if the silk is touched with a drop of hydrochloric acid. An appendix by Dr. Stierlin gives a tabular view of the behavior of different reagents with wines colored with dyes, as compared with pure red wine.

M. Ritter, Professor of the Faculty of Medicine at Nancy, has recently published a pamphlet on this subject.* "The dealers," he says, "pretend that fuchsine prevents the weak wines from turning sour, renders them transportable, and enables them to keep. This M. Ritter denies, having proved by analysis that the fuchsine wines deteriorate easily, and the adulteration is only a fraud. The fraud is carried on for three objects: 1. To pass off the common wines made with the Aramon grape, for the mountain wines; 2. Masking the wines to which alcohol and water have been added; 3. Altering the appearance of those which are too alcoholic, and have hence been diluted with water. M. Ritter points out several modes of detecting the adulteration—that which he adopts being Falière's process modified, which is as follows: Five or six grammes of the suspected wine are placed into an ordinary flask of thirty grammes capacity. Eight or ten drops of ammonia are added, and the flask filled three parts full with ordinary ether. It is then shaken up, and left to settle three or four minutes. A part of this ether is then decanted into another flask, and acetic acid added to acid reaction. If the wine contains fuchsine, an aqueous deposit, more or less rose-colored, will be noticed. The fuchsine is transformed into rosaniline, which the ether separates; the acetic acid changes anew the rosaniline into a colored salt, which falls to the bottom.

While we are on this subject, we will add one more test for the presence of artificial coloring matter, which is credited to M. Lamattina.

Mix three and a half fluid ounces of the suspected wine with half an ounce of the peroxide of manganese coarsely pulverized, shake the mixture for ten or fifteen minutes, and filter through a double filter. If the wine is pure, it passes colorless; if colored artificially, it keeps its color. When pure peroxide of manganese is employed, this process is applicable to all coloring substances artificially introduced, even fuchsine. When, however, the wine after filtration appears yellowish, it is because the oxide employed contains iron. In such case it is necessary to employ alcohol, acetic acid, and ammonia, in order to determine the presence of fuchsine.

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* The author promises shortly to furnish more detailed information on the preparation and properties of this compound.

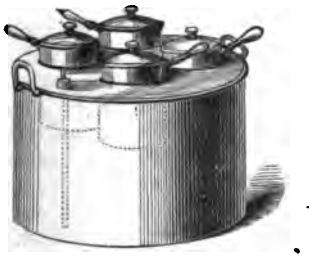
* Des Vins Colorés par Fuchsine, et des Moyens employés pour les reconnaitre, pp. 33.

The test of M. Fordos is as follows: Ten c.c. of the wine are put into a test-tube with ten drops or one c.c. of pure ammonia, and briskly shaken for some seconds. Five to ten c.c. of chloroform are then added and mixed with the wine by putting the finger over the end of the tube and reversing it several times, care being taken not to shake it, so that the chloroform may separate readily afterwards. The contents of the tube are then poured into a funnel provided with a stopcock, and as soon as the chloroform has sunk to the bottom, it is run off into a porcelain capsule, which is placed in a sand-bath. A slip of white silken stuff is laid in the chloroform, and heat is applied. The chloroform volatilizes, and, if fuchsine is present, leaves a rose stain on the silk. Towards the conclusion of the operation a little water should be added, and the heat continued. The color is thus fixed on the silk, the shade being more intense as the proportion of fuchsine is larger. If the wine be pure, there is no rose coloration. By concentrating the wine first, and using a very small piece of silk, the presence of very minute, almost infinitesimal, quantities of fuchsine may thus be detected.

The process would probably serve as well as an approximate quantitative test. For this purpose a color-scale should be composed of pieces of white silk of equal size, taken off the same piece, and treated with wine of known composition, mixed with different proportions of fuchsine.

On a Useful Form of Water-bath.

THE water-bath is an indispensable appliance of every laboratory, and should not be wanting in any pharmacy. According to the kind of work it is intended for, or according to the whim and taste of the owner, it may vary in size, shape or material; but one of the most generally useful forms, at least for the pharmacist, is that which is represented in the annexed cut, as it may serve



for a variety of purposes. Of course it may be constructed of any size desirable. The outer pan should be made of tolerably strong copper; the top is provided with a number of holes to receive either infusion-pots, capsules, or flasks, and a small aperture is intended for the insertion of a thermometer. The top may be made so as to be removable, to be replaced by a set of concentric rings, made of strong copper, and intended to support larger sized capsules or evaporating dishes. Although not necessary, a water-gauge may advantageously be attached to it. The bottom, which should be made of strong copper, must not be soldered on with common solder, but must be brazed on, for obvious reasons.

On the Purity of Chloral Hydrate.

A FEW months ago some French and English journals contained complaints about certain impurities in commercial chloral hydrate. One of these complaints referred to the supposed presence of free hydrochloric acid, which was said to contaminate it, "because white fumes became visible on approaching to it a glass rod moistened with ammonia." Mr. C. Anneessens criticises this statement, and maintains, very correctly, that such a test is no proof of the presence of hydrochloric acid. Indeed, perfectly pure chloral hydrate, at any but very low temperatures, always fumes when brought near ammonia, and the presence of hydrochloric acid can only be demonstrated by means of silver nitrate. The white cloud which is formed from the fumes of ammonia and the volatilized vapor of chloral hydrate, is due to the formation of ammonium formiate. This may easily be proved by absorbing the vapor of chloral with a piece of blotting-paper saturated with ammonia; an abundant white cloud is produced. The paper is washed with distilled water, the excess of ammonia is evaporated, solution of silver nitrate is added, and the whole heated. The mixture immediately becomes cloudy, then blackens, and deposits upon the sides and bottom of the vessel a fine mirror of metallic silver.

It is, however, possible that hydrochloric acid be present; in this case silver nitrate will give the characteristic precipitate. But the following reaction may be used in confirmation: Add to the solution of chloral a solution of sodium sulphide. If the chloral was pure, the mixture turns yellow, then becomes cloudy, and gradually darker in color, changing to rose or brick red; according to the quantities of the ingredients, but always to the last named tint if heated. If the chloral was contaminated with hydrochloric acid, however, the same reagent, under the same circumstances, produces a deposit of sulphur, and a disengagement of sulphuretted hydrogen.

Chloral hydrate is volatile at ordinary temperatures, like iodine and camphor. It may be considered pure if it has no acid [or, at least, only a very faintly acid] reaction upon moistened litmus paper, does not stain paper, is not affected by silver nitrate, gives off no reddish vapors with nitric acid, and yields 72.2 per cent. of chloroform when decomposed by caustic potassa.—*Journ. de Pharm. d'Anvers*, 1877, 1.

On a Copper-Salt which explodes with Potassium Chlorate.

If a solution of cupric sulphate be mixed with a solution of sodium hyposulphite until the former is entirely decolorized, the resulting liquid contains cuprous tetrathionate kept in solution by an excess of sodium hyposulphite, and sodium sulphate :

$$2NaS_2O_3 + CuSO_4 + xNaS_2O_3 = Na_2SO_4 + CuS_4O_6 + x\,Na\,S_2O_3.$$

On adding this solution to an aqueous solution of ammonio-sulphate of copper (prepared by adding ammonia to a solution of copper sulphate until the blue precipitate is just redissolved), the blue liquid after some time separates a salt in violet crystals, which, when mixed with potassium chlorate, explodes under production of sparks.—*Arch. d. Pharm.* fr. *Polyt. Notizbl.*

Silicotungstic Acid as Reagent for Alkaloids.

Dr. Rich. Godeffroy has ascertained the fact that silicotungstic acid is probably the most delicate reagent for alkaloids, nearly all of which, even in highly dilute, neutral, or faintly acid solutions, yield a precipitate with an aqueous solution of this acid. The sensitiveness of the reaction was tested by experimenting with the hydrochlorates of quinia, cinchonia, and atropia, with the following results :

An aqueous solution of quinia hydrochlorate gave, with a few drops of an aqueous solution of silicotungstic acid, a distinct precipitate, even in dilutions containing only 0.004 per cent. of the alkaloidal salt. Opalescence could be still observed in presence of only 0.002 per cent., corresponding to $\frac{1}{50000}$ of quinia hydrochlorate.

A solution of cinchonia hydrochlorate was rendered cloudy in presence of only 0.0005 per cent., or $\frac{1}{200000}$ of the alkaloidal salt.

A solution of morphia hydrochlorate was made opalescent in presence of 0.0065 per cent., or $\frac{1}{15385}$ of the salt.

None of the known alkaloidal precipitants, such as platinic chloride, potassium iodohydrargyrate, iodised potassium iodide, etc., show any reaction in such high dilutions.

The precipitates produced by silicotungstic acid are soluble with more or less difficulty in concentrated hydrochloric acid ; they are decomposed by solution of caustic potassa, which causes the separation of the alkaloids and the formation of an easily soluble potassium silicotungstate. On shaking the precipitates with caustic ammonia, they are at first dissolved to a clear solution, which, however, soon becomes cloudy from separation of silica. Ignition of the precipitates leaves behind an insoluble mixture of silica and tungstic anhydride (anhydrous tungstic acid).

Silicotungstic acid is best prepared by boiling sodium tungstate with freshly precipitated gelatinous silica. To the resulting solution is added solution of mercurous nitrate, which causes a precipitate of yellow mercurous silicotungstate, which is well washed with water upon a filter, and decomposed by an equivalent quantity of hydrochloric acid. Silicotungstic acid goes into solution, and mercurous chloride (calomel) remains behind. The clear filtrate is evaporated, to drive off the excess of hydrochloric acid, and furnishes, on spontaneous evaporation, large, shining, colorless octaëders of silicotungstic acid, which effloresce in the air, melt at 36° C., and are easily soluble in water or alcohol. We are therefore enabled to precipitate the alkaloids even in alcoholic solution, by using a similar solution of the acid. Marignac has found that this acid does not produce insoluble or difficultly soluble precipitates with any metallic salt, and Godeffroy adds that only cæsium and rubidium salts—but both even in very dilute solutions—are precipitated by it, and that it produces in a neutral solution of ammonium chloride a white precipitate, which is very difficultly soluble in large quantities of water. —*From Arch. d. Pharm.*, Nov.

On the Preservation of Ergot.

Prof. Dragendorff thinks that the proneness of ergot to spoil by keeping is due to the oxidation of the oil or fat so abundantly contained therein. The active principle of ergot, which, according to his investigations, is a nitrogenized organic acid united with lime, is considered by him as by no means unstable. Powdering the ergot causes the free exposure of the fat, which naturally abstracts oxygen, and becomes rancid. This oxidation, however, is preceded by ozonization, and care must be taken to prevent the ozone from attacking the active principle. Hirschberg, some years ago, suspected that the gradual oxidation of the fat was the primary cause of the deterioration of ergot. Prof. Dragendorff thinks that by depriving ergot of its fat immediately after powdering, and again drying, the resulting powder would retain its activity for a long time.—*Jahresb. f. Pharm.*

A New Mode of Generating Sulphurous Acid for Use as a Disinfectant.

Mr. Thomas W. Keates suggests the use of bisulphide of carbon as a material from which to evolve sulphurous acid. This substance is, as is known, quite volatile and inflammable [it is explosive when ignited in quantities]. It contains a large proportion (84 per cent.) of sulphur, and when mixed with kerosene and burned in an ordinary lamp, will evolve such an amount of sulphurous acid vapor as to disinfect a moderate apartment very rapidly. The method of employing the lamp is described by Mr. Keates, who has devised some peculiar sort of lamp for using the bisulphide of carbon more advantageously. An ordinary lamp is all that is necessary. [? Ed. N. R.] It should be said that although the smell of bisulphide of carbon, when impure, is most nauseating, yet a pure article is now manufactured, having little or no odor.

THERAPEUTICS.

Alcohol as a Food.

At the Eleventh General Meeting of the American Social Science Association at Saratoga, in September, Dr. Edes presented a paper upon The Uses of Alcohol, of which the following summary is a good statement of its food value:

I. Under some circumstances alcohol may be a food. These are:

(*a*) Deprivation of nourishing and sufficiently varied and abundant rations, as in the case of soldiers, sailors, laborers, etc.

(*b*) Where, for any reason, ordinary food is not well assimilated, or the system has become habituated to alcohol, as in some rare instances of habitual topers, and in some wasting diseases.

This substitution should be a matter of necessity, and not of choice.

II. The healthy man, with a full and varied supply of food, needs absolutely no alcohol. Wine with food sometimes assists digestion, but the digestion which needs the aid is either enfeebled or overburdened. The most severe and long continued labor can be carried on better without alcohol than with it. This is, in most cases, especially true of mental labor.

III. In the few cases in which this is not true, and where a small quantity of alcohol suffices merely to restore the normal vigor without excitement, the previous condition is probably one of somewhat impaired vitality, perhaps more especially affecting the heart. As an addition to a diet already sufficient, alcohol is, to say the least, useless in perfect health.

IV. An occasional use of light wine or beer is a luxury and not a necessity. Experience shows that such a use cannot be regarded as seriously detrimental either to bodily or to mental vigor.

V. After a fatiguing day's work, as a relaxation and agreeable change, or as a prelude and assistance to the digestion of more appropriate food, alcohol may be looked upon as approaching more nearly to a true stimulant or restorative action, than under any other circumstances in health. We thus expect from it neither intoxication nor reaction.

VI. An habitual overdose of alcohol leads to degeneration of important organs, and undermines the vital powers.

VII. There may be more reasons for total abstinence entirely distinct from the physiological.

VIII. The introduction of the use of light wine and beer, though not desirable in a community already in a state of ideal physical and moral perfection, is highly desirable as a substitute for stronger liquors.

The Treatment of Diarrhœa in Hot Countries by the Sugar of Milk.

Dr. Talmy prescribes for the diarrhœa of hot countries, from 20 to 300 grammes of sugar of milk daily. He administers it in the simplest way: the sugar, dissolved in a little water or as a syrup, may be partly taken at each meal, or as a draught in the course of the day. An excellent mode of administration consists in putting the dose of sugar of milk to be taken, into half a litre or two litres of milk, according to the habits and the digestive capacities of the patient. The treatment is spread over several months, diminishing the dose as nutrition becomes more considerable and easier. According to M. Talmy's little work (published by Coccoz, Paris), the endemic diarrhœa of hot climates is the result of a functional lesion of the liver, which results in the diminution and even the suppression of the glycogenic function of the liver. The sugar of milk may thus replace the glucose which is wanting in the blood.

Hypodermic Use of Iron.

Huguenin administers iron hypodermically in cases of pernicious anæmia, when the alimentary canal refuses to perform its functions. He uses a solution prepared from 5 gm. each of pyrophosphate of iron and ammonium sulphate, in 50 gm. of distilled water, and administers a quantity corresponding to 0.03 gm. (or 0.46 grains) of iron at a time. Very soon after the injection the skin becomes red, œdema and palpitation of the heart are observed; but all these symptoms soon vanish, and generally an improvement is noticeable.—*Gaz. des Hôp.* in *Ph. Z. f. Russl.*

Antihydropin.

Dr. Bogamolow some time ago discovered in cockroaches (*Blatta orientalis*, Orthoptera) a crystalline substance, which he named antihydropin, from the favorable effects obtained by him with it in the treatment of dropsy. Roaches are highly esteemed as a popular diuretic by the common people in Russia; this fact induced Dr. B. to employ them in various forms, such as decoction, tincture, and powder, and in the form of the supposed alkaloid. Under its use the amount of urine increases, albumen and casts diminish in quantity; œdema of hands, feet, and face subsides, the weight of the body increases, and the pores of the skin begin to act more freely. The remedy is said not to interfere with digestion, nor to irritate the kidneys.—*Petersb. Med. Woch.* in *Ph. Z. f. Russl.*

The Iodides in Lead-Poisoning.

At a meeting of the Academy of Medicine of Paris, Dr. Faure communicated a note on the efficaciousness of the iodides in lead-poisoning. These observations had been made by the writer in a white-lead factory, his own property. He made the experiment on himself after a very prolonged period of poisoning, and a partial cure by the usual remedies; he obtained excellent results by a treatment of iodide of potassium, administered in doses of two centigrammes. After that time, and notwithstanding an excessive sensitiveness to saturnine emanations, he had always successfully overcome frequently repeated poisoning.

M. Faure was of opinion that a workman sufficiently intelligent to determine the quantities he ought to take, would always obtain the most satisfactory results by a treatment consisting of doses from five to ten centigrammes of iodide of iron or potassium, without being obliged to interrupt his work.

Juncus Acutus in Ascites.

THE list of diuretics employed in this complication is not small; but it would appear that a French surgeon, residing in Algeria, has been very successful with *Juncus acutus L.* About twenty stems should be subjected to decoction, both the white and green parts being used. It may be mentioned that M. Cazin has found similar properties in an indigenous plant (the *Butomus umbellatus L.*). One ounce of the reed is to be boiled in a quart of water.

Sulpho-Carbolate of Sodium in Diphtheria.

BY W. E. ANTHONY, M.D.,
of Providence, R. I.

THE object of this paper is not to give the clinical history of diphtheria, but to call attention to a remedy which, in the hands of those who have had experience in its use, has proved a great benefit in the treatment of this disease. I refer to the sulpho-carbolate of sodium. My attention was first called to it by a paper, read before the Rhode Island Medical Society, by Dr. C. H. Fisher, in 1875, in which he detailed his experience in its use and the formula for its preparation. I have notes of eighteen cases of true diphtheria, occurring within the past three months, in which I have used the remedy with satisfactory results in all but one case. The fatal case occurred December 11th, and was that of a delicate child, three years of age, the disease proving rapidly fatal in thirty-six hours from the time of invasion. While I do not consider the sulpho-carbolate a specific in this disease, I do think that its judicious and persistent use will, in many cases, be followed by an amelioration of its symptoms.

Just what its mode of action is I am not fully prepared to say. It is possible that it acts as an antidote and eliminative to the peculiar blood poison which is the cause of the disease. It is a stable salt, parting with its acid only when brought in contact with the fluids of the body. In one case, where a large quantity had been used for several days, the odor of carbolic acid was plainly perceptible in the urine. The remedy may be used in every form and stage of the disease, in doses of from one to ten grains, repeated every one, two, three, or four hours, according to the necessities of the case. The proportion of acid in the salt is about one-fourth, which will determine the dose.

I have given as high as one hundred and twenty grains in twenty-four hours, to a child seven years old. It may be combined with quinia sulph., tinct. ferri mur., ammonia carb., or given in brandy, whiskey, wine, syrup, or any aromatic water.

A very good way to dispense it to children is to mix it with sugar and let them eat it. For adults I sometimes use the "cachet de pain." My rule is to begin the administration of the remedy as soon as the disease is recognized, and to continue it in increasing doses until its effects upon the disease is manifest, then gradually to diminish the dose and increase the intervals between the doses.

In addition to the use of the sulpho-carbolate, I always use tonics and stimulants freely, and nourishment, in a concentrated form, such as beef extract, cream, etc.

The local treatment is directed to the removal of the false membrane and the reduction of the local inflammation. This result is obtained, first, by hastening the natural progress of exfoliation; second, by the use of such remedies as will destroy the micrococci and dissolve the pseudo-membrane. —*Medical and Surgical Reporter.*

Phosphide of Zinc.

THE phosphide of zinc has so far proven a most efficient agent in the successful treatment of the major part of a certain class of affections. In very many instances it has been far more curative than phosphorus. Considered in the light of a curative agent the phosphide of zinc stands alone, not only for the certainty but for the rapidity of its action as a nervous tonic and stimulant. Its value in these respects has of late been fairly tested in the last and exhausting stages of typhoid and other fevers, where the nervous energies have been so far prostrated as to render convalescence, if not doubtful, at least tedious and protracted. The great therapeutic value of the phosphide of zinc is evinced in the most distinct manner, when used in the treatment of neuralgia. While the phosphorus is seldom curative in doses less than one-twentieth of a grain, often calling for as much as one-tenth or one-fourth, the phosphide of zinc yields as reliable and more speedy results in doses of one-tenth to one-eighth of a grain. But few stomachs can tolerate more than one-thirtieth of a grain of phosphorus before manifesting symptoms of irritation, which, in connection with the "matchy" taste soon evolved in eructations often engenders a disgust to its further continuance. Nor are these disagreeable features altogether abolished by any of the multitudinous formulæ now in vogue. On the other hand, experience with the phosphide of zinc has proven that it enters the circulation far more rapidly than the element, and when administered in doses of from one-eighth to one-twelfth of a grain, it produces its curative influence far more readily, and is equally as permanent in therapeutic power. It has been found to be extremely serviceable in neuralgia in doses of one-eighth of a grain in the form of a pill in angina, in loss of memory, and impotence, in loss of sleep from continued mental anxiety, and generally in those nervous affections that owe their origin to exhaustion and depression of the nerve force. Dr. Hammond's formula is one-sixteenth of a grain of phosphide of zinc, with one-fourth of a grain of extract of nux-vomica made into a pill.

RECENT PAPERS.

Journal of the Chemical Society.

November, December. J. GALLEY BLACKLEY: "On a New and Convenient Form of Ureometer for Clinical Use. (See next number.)

THOS. ANDERSON (the late): "Educts from Baphia Nitida (Barwood or Camwood"). [This dye-wood contains a crystallizable neutral principle, baphiin, soluble in alcohol and ether, and having the odor of orris-root. If baphiin be boiled with aqueous potassa, the solution filtered, and hydrochloric acid be added to the filtrate, a yellowish white powder falls, which, when collected, dried, and exhausted with anhydrous ether, yields, on evaporation of the ethereal solution, baphic acid. The latter, in ammoniacal solution, instantaneously precipitates metallic silver from the nitrate. It having been stated that the coloring matter of camwood is identical with santonine, the author comes to conclusions which are opposed to this view.]

L'Union Pharmaceutique.

December. DAMBIER: "Preparation of Syrup of Monobromated Camphor." [After various trials the author comes to the conclusion that the best form of exhibition, in a liquid state, is an alcoholic syrup, or elixir, the formula of which will be found on p. 62].

M. LAILLER, chief pharmacist at the Quatre-Mares Asylum, has used cherry-laurel water as a vehicle for morphia exclusively, during a whole year. He asserts that a hypodermic solution prepared with this menstruum keeps better than any other, and does not produce bad results.

Zeitschrift des Oester. Apotheker Vereins.
1876, Nos. 34–36. 1877, No. 1.

FR. STOLBA: "On the Purification of Zinc Sulphate." (See p. 43).

C. HIMLY: "Easy Method of Examining Flour for Adulterations." (See next number).

Répertoire de Pharmacie. 1876, Nos. 22–24.

BATTANDIER: "Presence of an Alkaloid in Heliotropium Europæum." [Ten kilos of heliotrope were boiled with acidulated water, the liquid concentrated, and treated with strong alcohol, which precipitated about one-half of the extractive matter. The alcohol was evaporated, and the extract left from this treated with potassa and ether. The green ethereal solution was mixed with 50 c.c. of dilute sulphuric acid, and the resulting liquid again decomposed with potassa and extracted by ether. The new ethereal solution, on evaporation, deposited a viscous mass, which gradually became crystalline; it is an alkaloid, very bitter, and forms crystallizable salts. The yield was 0.025 per cent.]

R. F. FRISTEDT: "On Balsam of Mecca." [Giving a history of the uses of this product derived from *Balsamodendron (*or *Amyris) Gileadense*, L. Mecca balsam or balm of Gilead is still considered a very valuable vulnerary remedy in the East, but is little used at present in regular practice.]

P. VIGIER: "Preparation of Picric Cotton." (See next number).

P. GUYOT: "Note on Two Species of Vegetable Wax." (See next number).

GAUTRELET: "On the Solubility of Salicylic Acid in Ammonium Citrate." [The author finds that the dissolving action which ammonium citrate exerts upon salicylic acid is due to the decomposition of the tri-ammoniacal citrate into one equivalent of a mono-basic citrate, and two equivalents of monobasic salicylates, both salts remaining dissolved in the solution.]

YVON: "A Pocket-Case Uroscope." (See next number).

Berichte der Deutschen Chemischen Gesellschaft.
No. 18.

C LIEBERMANN AND M. WALDSTEIN: "Emodin from Rhamnus Frangula Bark." [While attempting to prepare some frangulic acid, which Faust has isolated from the bark and recognized as a derivative of anthracene, the authors found a substance which, after various purifications, was recognized as *emodin*, heretofore only met with (in very small proportion) in rhubarb. According to Merck, who furnished the crude material to the authors, frangula bark contains about 0.2 per cent. of emodin.]

Zeitschrift für analytische Chemie. 1877, No. 1.

P. BERG: "The Quantitative Determination of Boracic Acid by Baryta." (See next number).

A. GAWALOWSKY: "Comparison of Various Filtering Papers in the Market." [All filtering papers of the market contain traces of iron; the Swedish paper of Munktell contains the smallest amount of ash; and Schleicher and Schill's paper has the lightest weight. The following are the names of manufacturers, with the percentage of ash of their paper, and comparative price:

Quality of Paper.	Firm.	Ash, per cent.	Price per 24 Sheets.
Common......	Alois Kreidel, Prague.......	1.00	27 pf.
"	Unknown, Leipzig..	0.40	57 "
"	Aktienges. Bohemia, Prague	0.90	23 "
" small	Lenoir, Vienna..............	0.70	42 "
" large	(?)	0.80	50 "
"	Schleicher and Schill, Düren	3.30	52 "
Chemic. pure..	do do	0.46	105 "
Swedish......	Eichmann, Prague..........	0.30	167 "
"	Blaha and Kappus, Prague..	0.26	300 "
"	Munktell, Stockholm........	0.20	200 "

100 pfennig = $0.238 gold.

Pharmaceutical Journal and Transactions. Nos. 338–343.

WM. INGLIS CLARK: "The Microscopy and Adulterations of Colocynth Powder." [In the course of this paper, to which we shall have occasion to refer hereafter, the author remarks that he has examined about one dozen samples of the commercial powder, and that he has detected starch (which should not be present) in three of them; in one sample as much as 75 per cent.]

WM. INGLIS CLARK: "A Deposit in Solution of Bicarbonate of Soda." [A solution of this salt had been observed to deposit crystalline grains, which on analysis proved to be calcium carbonate. As the sodium bicarbonate was free from lime, and as some diatoms were found intermingled with the crystals, the conclusion was drawn that the lime was carried in by the water (Edinburgh). Such proved to be the case; but it was ascertained that pure bicarbonate, free from carbonate of soda, caused no deposit. The latter salt therefore reacts with the lime in the water to produce a deposit.]

W. DYMOCK: "Notes on Indian Drugs." [*Clerodendron serratum*, local Bharangi Mul. Bark is bitter and considered tonic and antiperiodic.—*Symplocos racemosa*, local Lodhra; bark has a faint balsamic odor with slight astringency; it is often used externally made into paste with some adhesive substance, much like our pitch-plaster.—*Achyranthes aspera*, local Aghara. Decoction of the herb is used as a diuretic, and the juice as an application to scorpion stings and to relieve tooth-ache. [This plant is much used by the Hindus as a charm, as medicine, and in sacrificial rites; it is called apâmârga, "the effacer," in Sanskrit.—Ed. N. R.].—*Coix Lachryma*, local Kassai Bij. The silicious involucre of this grass, containing the seed, is sold in the drug shops. It is about the size, and has much the appearance of a small cowrie shell, shining, white, and very hard. At the base is a scar marking the attachment of the peduncle; at the apex an opening, from which, even in the dry state, a portion of the female flower may be seen protruding. Used as a diuretic. [Known as Job's Tears, Lachryma Jobi.—Ed. N.R.].—*Wrightia tinctoria*, local Kala-Koora. Bark of root and stem is bitter and reddens the saliva.—*Eupatorium Ayapana*, local Ayapana; stimulant, expectorant, and bitter tonic.—*Tetranthera Roxburghii*, local Maida Lakri; bark is much used as a demulcent and astringent in affections of the bowels, such as dysentery.—*Taxus baccifera*, local Birmee.—*Flacourtia cataphracta*, local Juggum (tree), Talisputree (drug); leaves have a rhubarb-like odor; used as a stomachic.]

F. A. FLÜCKIGER: "Note on Dikamali Resin." [This substance, the resinous exudation of *Gardenia lucida* Roxb., Rubiaceæ, is much used in India, both internally and externally; it contains, according to Stenhouse, a crystallizable resin, described by this chemist "as one of the most beautiful substances of that kind." It has a marked, peculiar odor, somewhat resembling rue and aloes; it looks crystalline and has a yellowish color, being decidedly yellow when powdered; the solution has a fine yellow color with a greenish hue. It assumes an intensely greenish brown color on addition of ferric chloride, and on addition of a little soda it turns brown. It belongs to the *aromatic* class of organic compounds, as it yields, by fusing with caustic potassa, protocatechnic acid.]

Journal de Pharmacie d'Anvers.

January. C. Anneessens: "Observations on the Alterations of Chloral Hydrate." (See p. 45).

Archiv der Pharmacie.

December. A. Ripping: "On Artificial Cherry-laurel Water." [The great difference in effects of the commercial water led the author to suspect that much of it was prepared artificially; in order to examine the subject, he prepared some himself. From his own experiments he had previously ascertained that each litre of the natural distilled cherry-laurel water contained about three grammes of essential oil. Having prepared some dilute hydrocyanic acid, of the strength required by the Pharmacopœia for cherry-laurel water (1 in 1,000), he added to each litre three grammes of oil of bitter almonds, and obtained a mixture which appeared to be identical with the natural water. To distinguish between the two waters, the process of Mohr for distinguishing between natural and artificial bitter-almond water may be employed, namely. silver nitrate, which produces only a slight opalescence in the natural water, as the hydrocyanic acid is wholly fixed by benzaldehyde, and the opalescence is caused by ammonium cyanide, which is formed during the distillation by the splitting up of the hydrocyanic acid into ammonia and formic acid. The presence of nitrobenzol may be recognized, according to Hager, by shaking the water with chloroform, evaporating the latter, treating the residue with alcohol and water, and then adding zinc, hydrochloric acid, and after a while a small piece of potassium chlorate. If no change of color takes place, the absence of nitrobenzol is proved, as the latter would be converted by nascent hydrogen into anilin, which would be changed to rosanilin by potassium chlorate, and would tinge the alcoholic liquid rose-red.]

Pharmaceutische Zeitung für Russland.—Nos. 22–24.

A. Peltz: "On Indian Hemp and its Active Principle." (See next number).

A. Poehl: "A Case of Cholesterin in Urine." [This was separated by shaking with ether; the ethereal solution on evaporation left a wax-like mass, which was treated with a hot alcoholic solution of potassa; the mass was evaporated to dryness and extracted with water. By repeated shaking with ether the whole of the cholesterin, amounting to 2.5 per cent. of the urine, was obtained, and finally crystallized from hot alcohol]

Pharmaceutische Centralhalle. Nos. 46–52.

E. Biltz: "Campani's Test for Sugar in Urine." [This depends on the characteristic color produced by superimposing a layer of urine upon a very dense layer of a copper solution. The amount of copper must be very minute, and the great density of the solution is produced by a foreign salt. Two methods are proposed:

Heat five or six c.c. of basic lead acetate solution, to which a very small quantity of cupric acetate has been added, to boiling, and allow the urine to flow on top, without permitting the liquids to mingle. In presence of one-half per cent. of sugar a yellow coloration makes its appearance at the point of contact.

Or, add to a concentrated solution of sodium chloride a very small quantity of Fehling's solution—merely enough to show a bluish tint; then boil, and pour the urine carefully on top. The same colors will be developed if sugar is present.]

E. Biltz: "Detection of Iodic in Nitric Acid." (See next number).

Hager: "Valerianate of Caffein." [Dr. Hager notices the mention of such a compound in some Dutch journals, and points out that caffein has been shown to be incapable of forming compounds with acids, for which reason the citrate of caffein, which used to be officinal in several pharmacopœias, has been abandoned.]

Hager: "On the Occurrence of Buxin in Beer." [The author found buxin, or bebeerin, in beer, but states it to be entirely harmless.]

Hager: "On the Purity of Salicylic Acid." (See next number).

American Journal of Pharmacy.

January. L. Wolff: "On the Use of Petroleum Benzine in Pharmacy." [From this paper, which suggests a number of new uses of benzine, we select the author's process for preparing purified oleic acid. See next number].

G. W. Kennedy: "Aquæ Medicatæ." [Pointing out the objections to the use of magnesia in their preparation, as it is well known that a trace of magnesia is held in solution, which will cause the precipitation of alkaloids, if such should be dissolved in the water. The author recommends that the next pharmacopœia should prescribe all aromatic waters to be made by distillation.]

R. V. Mattison: "Acidum Phosphoricum Dilutum." [Stating that his firm is in the habit of manufacturing the acid as follows: In the yard attached to the laboratory there is placed a tub of twenty-five gallons capacity, into which are put some smooth bricks, and upon them a graphite crucible of about ten gallons capacity. Upon the top of this a funnel is inserted, and carefully luted down at the edges with flaxseed meal, or clay, the necessary amount of amorphous phosphorus being previously put into the crucible. Into the spout of the funnel a glass tube is inserted, reaching to the bottom of the crucible, and at the upper end provided with a small funnel, through which the requisite amount of nitric acid slightly diluted is poured in. The application of heat is accomplished by allowing the waste steam and hot condensed water from the upper floor of the laboratory to pass into the tub, the water surrounding the crucible being thereby constantly kept hot, and the process may be kept going for any length of time.

The author recommends also the following method as very simple, and specially adapted for the pharmacist:

Take of Phosphorus (amorphous)......370 grs.
Nitric Acid.................5 troy oz. or q. s.
Water, sufficient.

Add the nitric acid to eight fluid ounces of water in a porcelain capsule, and to this add the amorphous phosphorus; raise the temperature of the mixture to boiling, and evaporate until the solution has lost the odor of nitric acid. Then dilute to twenty fluid ounces, or to the requisite spec. grav. with water, any impurities having previously been removed.]

H. G. Debrunner: "Dangerous Candy." [Reporting to have found candies wrapped in fancy paper, which on analysis proved to be colored with Paris green, one paper containing as much as one-half grain of arsenious acid and one-third grain of cupric oxide.]

Pharmaceutische Zeitung. Nos. 100–104. 1–4.

H.: "Distinctive Tests for Carbolic and Salicylic Acid." (See next number.)

Dr. Schacht: "On the Composition of Sodium and Zinc Salicylates." [The sodium salt, as prepared by E. Schering, corresponds to the formula $2(C_7H_5NaO_3)+H_2O$, contains 13.60 per cent. of sodium and crystallizes in laminæ. The zinc salt corresponds to the formula $C_7H_5ZnO_3+H_2O$, contains 17.34 per cent. of zinc, and crystallizes in well-developed needles.]

Same: "On Chemically Pure Glucose." [Slight modification of Schwartz's process.* To 1 litre of 80 per cent. cold alcohol, containing 40 c. c. of fuming hydrochloric acid, 590 grammes of finely powdered cane-sugar are gradually added. The syrupy liquid turns yellowish, and after standing for about eight days in a cool place, becomes semi-crystalline. The liquid portion is poured off and the crystals transferred to a filter, where they are washed with alcohol of 0.830 specific gravity, until the filtrate is *entirely indifferent* towards litmus. This can be accomplished only by removing the crystals from time to time, rubbing them with the alcohol in a mortar, and again bringing on the filter. Finally the crystals are put on blotting-paper, dried in the air, and recrystallized from *boiling absolute* alcohol, most of which may be recovered by distillation.]

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* New Remedies, V., 169.

ORIGINAL COMMUNICATIONS.

THE METRIC SYSTEM.

THE late action of the Medical Society of the County of New York, in recommending to its members the adoption of the Metric System in writing prescriptions, is one of those efforts which are made spasmodically to shake off the yoke of antiquated customs and institutions which have outlived their usefulness. It is not by any means the first effort of the kind in this country, and some time may possibly elapse before it will be entirely successful; but that it eventually will prevail, we think there can be hardly any doubt. And even if it should be found advisable to defer for a time the *general* adoption of the system, it will, and should make its way into every branch of science, which deals with exact facts.

Among the objections which have been raised against the introduction of the metric system, there are many which are apparently important, some of which have already been satisfactorily answered, while others have perhaps only been alluded to in the late discussions and printed papers. But it is unwise to look only upon the side of the advantages; if there *are* valid objections, they should not be passed over in silence, particularly at this stage: they would have to be encountered some time or other, and if they cannot be successfully answered now, the adoption of the system at this period would be injudicious.

In discussing some of these objections we wish it to be understood that we do not intend, at least for the present, to insist upon the universal adoption of the system, but that we merely wish to see it adopted by physicians and pharmacists. But here we are already met by the objection, that "it is unwise to introduce the system into a special branch of business, before it has become universal." Some retailers or dispensers contend that they should not be made to calculate the value of their goods into the metric system, as long as they are compelled to purchase by avoirdupois. This is a very small hardship indeed, and requires the exercise of but little arithmetical calculation. Besides, if the system is once adopted, a large number of chemicals and pharmaceuticals, which are only made use of in prescriptions, will probably be put up by wholesale and manufacturing houses, in metric quantities, and the importer could order his foreign goods in the same system, which would be quite an accommodation to the exporting chemists and druggists of Continental Europe, as they would be saved the trouble of putting up special packages for the American market. We are well aware that—in absence of a general use of the system—the labor of transcalculation from metric to common weights and measures will fall upon somebody, and this somebody will generally be that person who occupies the threshold between trade and science; he is not only the most proper, but is generally also, or at least ought to be, the most capable person for this task. And the apothecary is certainly one of those who may be said to stand upon this boundary line.

One of the most common objections may be modulated in this way: "We are well accustomed to our present system, and do not want to be bothered with a change; nor do physicians want it; and if they did, we both would be liable to make mistakes." This argument in fact lies at the background of many other objections, and does not generally crop out until the adversary has been vanquished in every other point, and been driven to the wall. It is quite true, that many do not want a change; why should they be annoyed with new-fangled ideas, when the world would roll along smoothly and they with it, while sticking to the old fashion? They love their ease, and want to be left alone; "when they are gone, then people may do as they like." With this class of men, which is fortunately not very large, counter-arguments are useless; they must be left to their fate. As to the mistakes liable to be made by either the physician or apothecary, we do not see why they should be of more frequent occurrence in this country, than where the system has been introduced by compulsory laws. Surely the members of either profession would not wish to bestow upon themselves such a testimonium paupertatis as this, to acknowledge their inability of mastering a few simple figures. On the contrary, we firmly believe that the very newness of the thing will cause a much greater degree of care than usual on the part of the physician as well as the apothecary, and no prescription is likely to leave the store of the latter before it has been thoroughly scrutinized.

Another argument may be raised in this manner: "It is unwise to adopt the metric system in the preparation of prescriptions, as long as galenical preparations are not prepared by weight exclusively."

This is one of the weightiest objections yet offered, and in order to explain it more clearly, we will dwell upon it somewhat more in detail. Our tinctures, fluid extracts, syrups, etc., are prepared from a certain *weight* of the drug which is made up into a certain *measure;* for instance, 16 *troy* ounces of digitalis are made into 16 *fluid* ounces of fluid extract; now we know that nearly all manufacturers differ somewhat in their processes or in the kind of menstruum they employ, although their products may be equally reliable. One may use glycerine, another may not. The 16 fl. oz. of one maker's product may therefore, in certain cases, weigh one-fifth or one-fourth more than 16 fl. oz. made by another. Now, while this difference in weight is of no account, as long as the preparations are dispensed by measure, it may make some difference if dispensed by weight. Supposing two grammes of fluid extract of veratrum viride had been ordered, it is not at all unlikely that 2 grammes of one maker's product would measure say 40 minims, while the same weight of somebody else's manufacture might perhaps measure 30 minims, representing therefore a different number of grains of veratrum viride. If however, each maker had prepared his fluid extract—irrespective of the kind of menstruum—so that 16 *troy* ounces of the drug had been made into 16 *troy* ounces of the finished preparation, any difference in measure or bulk would be immaterial. The next U. S. Pharmacopœia will doubtlessly direct all preparations to be made in this manner, and will exclude measures entirely. The small error, however, which is caused by such a discrepancy between weight and percentage of active constituents, is nearly balanced by the manner of administration, which is generally effected by the ordinary domestic measures. It might be said here, that two wrongs do not make a right, but—there is no rule without exceptions; and we are inclined to think that this small drawback may be easily overcome, although perfect exactness will never be reached until the officinal preparations are all made by weight.

Let us once more recur to the first-mentioned objection, which is occasionally brought forward in a different version, thus: "It is unwise to force the metric system upon a portion of the community before its *adaptability* to the wants of the whole people has been demonstrated, and its general introduction been *finally settled upon*." In place of long arguments we may ask: Why has it been universally adopted by scientists throughout the world? Were they compelled to use it, or did they wait until it had become universally adopted? and does not the physician as well as the pharmaceutist aim to establish and to build upon scientific truths based upon exact determinations of time, space, weight, temperature, etc.? What system better than the metric could be devised for such a purpose? Or is there a lurking thought behind, that perhaps the metric system will again be abandoned by those nations who have already adopted it? We are perfectly well aware that it is not absolutely free from errors; indeed, the fundamental terrestrial measure—the distance from pole to equator measured upon a great circle—has not yet been determined with the utmost attainable degree of accuracy. But absolute exactness is unachievable, no matter what base-line may be adopted as starting point. The original idea of a fundamental measure, which might be accessible to civilized man at any time and under all circumstances, has during the last few years been reduced to the preparation and adoption of a number of exact standard-metres, all made with the utmost possible care from a uniform and homogeneous mass of iridium-platinum, possessed of equal and known degrees of expansion and contraction, and intended to be deposited at the various government-centres. It is therefore neither likely that the standard (metre) will ever be lost, or that it will be replaced by another, different, system. The apparent drawback which is heralded forth by a number of prominent men, that the system is not adaptable to the wants or the understanding of the common people, chiefly owing to its limited divisibility, is an artificial objection which we are sure would soon be found groundless, at least as far as the *understanding* of the people is concerned, although we can readily imagine that in certain trades and arts a change of system would involve a considerable outlay.

Let us profit by the experience of other nations, some of whom have managed to bring about this change in a remarkably short time, without any noticeable disturbance of trade or commerce; and let us be prepared to fall into line when the time comes; perhaps the joint efforts of physician and pharmacist will be found to have formed the entering wedge.

THE BAHAMAS AS A HEALTH-RESORT.

A TRIP combining motives, both of business and pleasure. led us, in the early part of the winter, to visit a group of islands, lying about thirty hours sail to the eastward of Florida, known as the Bahamas. Although it was upon one of these that Columbus first landed, and one might, therefore, infer that, being the oldest known region of America, we would be likely to know all about them, still it is said that there are some of the five hundred islands that compose the group, that have yet to be explored. It is a fact that many intelligent people know so little of them, even in a general way, that they are quite as often confounded with the Bermudas, and located in the southern Atlantic or Pacific oceans, as where they really belong.

To reach the Bahamas is by no means difficult, for during the season a steamer leaves Pier 16, East River, every week, going either direct, or stopping at Savannah on the way, and the traveller has the choice of a trip of five days by sea or a ride in the cars to Savannah, and a shorter voyage of about forty hours from there.

For some persons the first would be advisable, and such can be assured that the steamers of the line are carefully sailed, and well supplied. Both in going and coming, the writer made the trip by sea the whole distance, and the attention and carefulness of the officers was a subject of grateful comment, while the table was rather better than is oftentimes found on board some transatlantic lines. The steamers, to be sure, are smaller than those used to cross the Atlantic ocean, because the shallowness of the water on the bar across the entrance to the harbor of Nassau, prevents larger vessels than 1,000 tons being employed. The lower portion of the route is generally made in smooth water, and the motion is not disagreeable. The trip by way of Savannah has the advantage of being almost entirely limited to the smooth water, so that persons who suffer much from sea-sickness, and do not require the voyage as a part of their treatment, can usually reach the islands without discomfort. When we left the harbor of New York, in November, a north-east gale was blowing, and it was considered good policy to anchor in the Upper Bay until daylight. The two following days were rough, but after getting through the Gulf-stream, and while running down beyond its eastern border, the smooth sea and warm sun were delightful. This was especially the case as we approached the end of our voyage, and when, at last, we reached the harbor of Nassau, warm winter clothing became unendurable, and the naked little darkeys who dove for pennies, were envied the luxury of a plunge in the warm water.

The Bahamas are a British colony, and Nassau, the seat of government, is on the only one of the group which possesses a good harbor. This island (New Providence) is by no means the largest, but is the most thickly settled; by far the largest number of inhabitants being blacks. The length of the group is about six hundred miles, and the distance between them is such that in going from one to another by boat, land is never entirely out of sight. Only a small number are inhabited, and all are flat and often long and narrow. They appear to have originated in a coral formation, and are entirely composed of lime-stone. Some are quite barren, but the larger ones are covered with a close growth of trees, comprising the Madeira, horse-flesh mahogany, mastic, lignumvitæ, pigeon, alum, and various dye-woods, in addition to a dense mass of under-growth, in which varieties of palm and cactus are quite conspicuous. As a whole the vegetation is decidedly tropical in character, and in almost every way differs from that of our States.

Two things in regard to the climate are very conspicuous: the slight variation of temperature, and the moisture of the atmosphere, both being due to the geographical position. Next to the effect which is always exerted upon the climate of islands in the sea, of limiting the range of temperature, the existence of the Gulf-stream is the prime factor in rendering the climate of the Bahamas so singularly mild. Sweeping around the eastern coast of Florida, the Gulf-stream passes between our coast and these islands, and by its warmth is an almost perfect barrier against cold west and north-west winds, such as frequently render the slightly built houses of our Southern States anything but comfortable without extra fires. By the time these winds reach the Bahamas, however, they have been so warmed by the higher temperature of the Gulf-stream and saturated with moisture, that unless the wind continues a gale for several days, it quite loses its biting character.

This was well shown at the time of our visit, for during the week of our stay we were treated to about everything in the way of weather, excepting a hurricane, that the climate could produce. During the latter part of the week a north-west wind blew, and, much to the consternation of the inhabitants, the thermometer sank gradually from about 70°, which is the average during the winter, to 52° Fahr.* On returning to New York we found that the cold here had been intense, and in Florida, on a line nearly due west of the Bahamas, the following condition of affairs was described by a correspondent of the *New York Times:*

"I have found a heavy Ulster overcoat, in addition to thick winter underclothing, exceedingly comfortable. Everybody here is wrapped up in similar style, and blazing wood fires are heaped on every hearth. Ice two inches thick has been found in vessels on the St. John's steam-boats two hundred miles south of this place, and I met a man to-day who told me he made a cocktail this morning from ice that formed in the wash basin in his bed-room. He showed me some of the ice. The same man had a pet bird of the species known as a black-headed stilt, which froze to death last night in his kitchen. The thermometer at this place on Thursday marked 66°. Yesterday it had fallen to 33°, a fall of 33° in twenty-four hours. It has since been down to 28°, at which point orange trees begin to wilt. All the banana plants, the pawpaw trees, and the young orange trees in the State are ruined."

The only other directions from which the winds might blow cold is the north-east and east, but from these quarters it comes across the Middle Atlantic laden with moisture and tempered so that unless it blows with the force of a gale it is quite endurable. In Nassau the occasions for a fire for any other purpose than cooking are so few that the houses, with one exception, are built without chimneys.

As for the moisture of the air, it can readily be understood that with the thermometer rarely changing more than five to nine degrees, rainfalls are not very abundant, and persons who depend solely upon the indications of the rain gauge for the degree of moisture will be quite mistaken.

The fact is that the air is quite laden with moisture which only appears in the form of vapor when the south wind has blown for some time, and also with the sudden fall of temperature which always occurs as the sun goes down and its heat rays are absorbed by the longer distance they are obliged to pass through the moist air. It is then that the dew is deposited; and sometimes so profusely, that one might suppose that there had been a shower. When, however the equilibrium has been established by radiation of heat from the surface of the earth, and the air and land are more nearly alike in temperature, the atmosphere becomes clear again.

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* Surgeon Henry, stationed at this post, who has kept meteorological records for several years, said that this was the lowest temperature experienced since 1866.

If at such times the fall in temperature were greater, the effect would be to render the place damp and chilly, and such troubles as rheumatism and neuralgia would be very common and distressing; as it is, these affections are not only said to be rare in the Bahamas, but are very much improved by a residence there. Then, too, for diseases of the respiratory passages, such as we have in this region, in which the mucous membranes are irritable and dry, and for the relief of which we resort to douches and inhalations of vapor, a residence during even a few days in this climate affords remarkable relief.

In those forms of lung trouble where there is profuse expectoration and perspiration, we should hardly think of recommending patients to visit the Bahamas. But in the early stages of chronic pneumonia and catarrhal pneumonia, in tuberculosis, convalescence from acute diseases, in malarial affections, and in exhaustion from over-work and worry, the advantage of being able to live, if necessary, out of doors, without the fatigue of heavy clothing; the comparative freedom from risk of catching cold, and the purity of the atmosphere, render this one of the most healthful as well as available resorts of which we have any knowledge.

Another evidence of the saturation of the air is the luxuriance with which vegetable life flourishes upon this rocky soil. Some plants which require aluminum and silex in their growth would starve, but succulent growths, like the cactus, palm, bread-fruit, all the varieties of the *citrus* family, the cocoanut, sugar cane, pineapple, etc., are to be found nowhere in finer condition or greater variety than here. Wherever there is an inch of soil there is something growing, and even the soil is not essential, for back in the suburbs of the town, gorgeous orchids and the curious *Briotherium* hang from the trees and sprout from the stone walls, depending on the air alone for their sustenance.

So much for the natural advantages of the place. Now as regards the conveniences for living, without which no climate, however salubrious, can be of much service to an invalid.

The land rises gradually from the edge of the harbor, and the town, which is a little more than two miles in length, is laid out in pretty regular blocks, the greater part of which are used as grounds surrounding the houses. On the crest of the slope, which is about ninety feet high, overlooking the town and harbor, are some of the principal private dwellings, together with the residence of Governor Robinson, and the hotel. The streets are cut into the limestone, of which the island is so largely composed, and owing to their grade and the porous nature of the rock they are dry almost immediately after a shower. The only sewer, so far as we could learn, is the one extending in a direct line from the Royal Victoria Hotel to the harbor. Nearly all the water consumed for drinking and cooking is derived from the rainfall, and is stored in well-cemented subterranean tanks. Wells have been sunk in the rock in many places, but the water found in them is more or less brackish, and rises and falls with the tide, floating on the surface of the salt water, which percolates through the porous rock.

Among other curiosities we brought home some small samples of the waters from these different sources, and the following analyses of them, by Dr. Charles A. Doremus, will give as good an idea as could be had from the quantities analyzed:

	Solids per gallon.	Chlorine per gallon.
No. 1. Distilled water.......	not taken.	0.1213 grains.
" 2. Croton water........	not taken.	0.4852 "
" 3. Tank water........	2.00 grains.	0.4852 "
" 4. Well water (A).......	18.00 "	2.6686 "
" 5. " " (B).......	102.40 "	18.9228 "

"Only No. 5 contains solid residue in excess. It shows signs of organic matter, slight indication of ammonia, and contains carbonate of lime in solution in excess of carbonic acid. There is too small a quantity to determine either organic impurities, ammonia, or metallic bodies. The tank water shows nothing exceptional in chlorine or residue. No. 4 also contains carbonate of lime."

No. 3 was taken from the tank which was the source of the hotel supply, and Nos. 4 and 5 from wells in the grounds of one of the physicians of the place. No. 4 was quite palatable and was used by some of the neighbors, although the doctor's family used rain water from their tank. This well could not have been more than four hundred feet from tide water. Well No. 5 had an adjoining cess-pool between it and the sea, and was considerably further away from tide-water than No. 4. The influence of the cess-pool was quite as markedly apparent in the water itself as the difference in solid constituents is in the above analysis; and although some persons resorted to this well for water, as was shown by the bucket and appliances for raising it, it was not a "popular" one. The visitor to Nassau need have no fear of trouble from this source, however, for tank-water (for which there is storage capacity for 300,000 gallons) alone is used at the hotel for drinking purposes, and the analysis shown above indicates that he gets nothing better at home.

The Royal Victoria Hotel, at which most visitors stop, although board and comfortable lodgings may be had in the town, was built by the Colonial Government a number of years since, and is leased to a gentleman living in New York State, with the provision that a first class American hotel shall be kept from November to April. The building is four stories in height, is solidly built of lime-stone, and is surrounded with broad piazzas on all but the upper floor. The rooms are high, well lighted, and have tramsom ventilators over doors and windows, the windows themselves extending to the floor. The walls are painted. There are no carpets, and the floors are of Southern pine, protected at the bed-sides by rugs. There are no drain or water pipes, chimney flues, or ventilating shafts in the building, the bath-rooms and water closets being in a two-story building in the rear, to which the approach is by covered corridors. The parlors are quite as comfortable as is needed in view of the little use that is likely to be made of them where out-of-door attractions are so great for all who are able to leave their rooms. The dining-room is large and well furnished, and the table is excellent, nearly all the supplies, excepting the native fruits and fish being bought, by an agent of the house, in the New York markets. Altogether we were pleased with the hotel and the way in which it was kept. Some things were not entirely satisfactory, but they were not of a character to interfere with its purposes as a health resort. Many of the hotels considered to be "first class," to which we resort in warm weather, are not to be compared with it.

An item of considerable importance to one who is in search for a sanitarium is the nature of the amusements which may be had. At Nassau one is practically cut off from communication with the world, excepting by the steamer, and letter reading and writing, however enjoyable for a time, is not calculated to satisfy entirely. One who is able to be much out of doors can find such a multitude of curious and beautiful things that sight-seeing, bug-hunting, fishing, coral and shell collecting, and hunting may absorb a great deal of time. Providence seems to have intended the Bahamas for this purpose, for the wonderful things which are to be found out of doors are an incentive to those whose recovery of health depends in great part upon their spending a large portion of their time in the open air. Still one must sometimes stay in the house, and the ladies, unless of an exceptional sort, are likely to spend most of their time there. For such the library, which is but a short distance from the hotel, has six thousand volumes and an abundance of serial publications. The drives are very good, and the carriages, although somewhat antiquated, are comfortable. The hotel itself provides one with good society, if its register and the visitor's book at the United States Consulate are to be trusted, and it is rarely that the better class of permanent residents at such places are as hospitable and kind as they have a reputation for being at Nassau. Governor Robinson and his lady hold stated receptions to which all proper persons are welcomed, and the United States Consul, Mr. Mahlon Chance, showed, during our short stay, a desire to render the visit of his countrymen at the Bahamas as agreeable as possible.

Those who are in need of medical attendance, can find very good physicians in the place. We had the pleasure of meeting some of them, and can testify to their intelligence, gentlemanly character, and, notwithstanding their insular location, familiarity with recent medical literature.

EXTRACT OF LOGWOOD AS A DISINFECTANT.

FOR twelve years I have used Extract of Logwood as a disinfectant and deodorizer in cancer. I use it in the following manner:—Powdered logwood and hog's lard, of each, two ounces. To be mixed and made into a pomade, spread on lint and applied to the sloughing ulcer; the effect is magical, all the odor will disappear in half an hour. The astringency of the logwood will suppress the discharge. No other known agent will fill the indications so well, and yet I have not found a single member of the profession who had any knowledge of the agent until I suggested it. Will some of your numerous readers give it a trial and report the results.

H. MALLORY, M.D.

HAMILTON, OHIO, Jan. 13th, 1877.

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THE ELECTRIC BATH: Its Medical Uses, Effects, and Appliance, by GEORGE M. SCHWEIG, M.D. New York: G. P. Putnam's Sons. 1877. 12mo, pp. 134.

FOR some time it has been known that Dr. Schweig was making considerable use of the galvanic current as modified by the submersion of the body in water, and the present work has been looked for as an exposition of the method employed and its results. Those who may desire to repeat his experiments, or to investigate further the employment of this agent, will find in its pages admirably complete directions for the arrangement and mode of using the apparatus. As for the results, although it does not appear that the author has let his subject become such a hobby that he sees a panacea in it for all ills, or for more than a very few, still we must confess that we are not convinced that the results of the employment of the electric (sic) bath possess advantages over the ordinary modes of electro-therapeutics which balance its inconveniences.

EPITOME OF SKIN DISEASES, with Formulæ, for students and Practitioners, by TILBURY FOX, M.D., F.R.C.P., etc., and T. C. FOX, B.A., M.R.C.S. Philadelphia: Henry C. Lea, 1876.

THIS is a handy duodecimo of 120 pages, into which the authors have condensed a good deal of practical information regarding skin affections, including a number of approved formulæ for their treatment. Pretty much everything in the way of a theoretical or debatable nature has, of necessity, been omitted and, so far as it goes, the little book will be found, we think, quite reliable.

MICRO-PHOTOGRAPHS IN HISTOLOGY, by CARL SEILER, M.D., in conjunction with J. Gibbon Hunt, M.D., and Joseph G. Richardson, M.D. Philadelphia: J. H. Coates & Co.

NO. 6 of Vol. I. of this publication contains pictures of "Amyloid infiltration of the Kidney" (x 180), "Hyaline Casts of advanced Bright's Disease" (x 180), "Uric Acid" (x 130), and "Triple Phosphates" (x 130). Judging by the notices which we see in foreign journals, it is meeting with the same favor abroad that it finds here.

MEDICINAL PLANTS.—Being Descriptions, with Original Figures, of the Principal Plants Employed in Medicine, and an account of their Properties and Uses, by ROBERT BENTLEY, F.L.S., etc., and HENRY TRIMEN, M.B., F.L.S.

SINCE our notice, in June last, of this publication, we have received parts 6 and 7.

There is no falling off either in the beauty of the plates or the character of the text. The former are made to include all the characteristic features of the plants represented, and the latter embraces a description, the circumstances attending the growth, official parts and names, general characters and composition, and medical properties and uses. Another valuable feature is a list of references in each case, which will enable the student in pharmacognosy to extend his researches beyond the limit of the article in question.

The plants mentioned are as follows:

PART 6.—*Anamirta paniculata* (Cocculus indicus), *Canella alba*, *Barosma betulina* (Buchu), *Barosma serratifolia* (Buchu), *Physostigma venenosum* (Calabar bean), *Pterocarpus Marsupium*, *P. Santalinus*, and *Hemidesmus indicus* (Indian sarsaparilla).

PART 7.—*Illicium anisatum* (Star-anise), *Polygala Senega* (Seneca Snake-root), *Camellia Thea* (Tea), *Melaleuca minor* (Cajuput), *Uncaria Gambier*, *Chimaphila corymbosa* (Pipsissewa), *Ophelia Chirata* (Chiretta), and *Schœnocaulon officinale* (Sabadilla).

LETTRES HISTORIQUES SUR LA CHIMIE, Addressées à M. Professeur Courty. A. BÉCHAMP. Paris. 1876. 8vo, pp. 621.

Prof. Ad. Wurtz, it will be remembered, made the assertion a few years ago that "chemistry is a French science," for which he was deservedly criticised by the chemists of other 'civilized' countries. Mr. Béchamp now takes up the cudgel again, and publishes a book dedicated to the memory of the celebrated Lavoisier, "who has been treated with indignity, and calumniated by the German chemists Kolbe, Liebig, and Volhard." The *Journ. de Ph. et de Chim.* remarks, that "after having read these letters, one cannot help acknowledging, with Dumas, Wurtz, and Béchamp, *that chemistry is really a French science*, which was founded by Lavoisier, of immortal memory!"——Why then should not botany be a Swedish science, for was not Linnæus a Swede? or why should not electricity be an American science, for was not Franklin an American? If some of the French savans would exert themselves, they might perhaps find the seeds of so many sciences sown in France that there would be nothing left to "outside barbarians."

NEW BOOKS.

Dolbear (Prof. A. E.). The Art of Projection. A Manual of Experimentation in Physics, Chemistry, and Natural History, with Porte-Lumière and Magic Lantern. Illustrated. 12mo.

Beer (R. K.). Pharmacological Dictionary. 8vo, pp. 83.

Douglas (S. H.) and **Prescott** (A. B.). Qualitative Chemical Analysis. 2d ed.

Oehme (F. G.). Therapeutics of Diphtheritis.

Ricketts (P. de P.). Assaying and Assay Schemes.

Jackson (L. D'A.). Simplified Weights and Measures.

Self Cure of Love of Liquor and the Opium Habit. 12mo, pp. 96.

Smith (W. G.). Mushrooms and Toad-Stools. 3d ed. 12mo, pp. 64. Illustrated.

Eltoft (T.). The Combined Note-Book and Lecture Notes, for the Use of Chemical Students: Inorganic Chemistry. 4to.

Reynolds (J. E.). Six Short Lectures on Experimental Chemistry. 2d ed. 8vo, pp. 76.

Everett (Professor). Illustrations of the Centimetre-gramme. 8vo. London.

Petersen (J.). Hauptmomente in der geschichtlichen Entwicklung der medicinischen Therapie.

Pelletau (Dr. J.). Le Microscope: son emploi et ses applications à la Zoologie, Botanique et l'Histologie. 1 vol.

Sachsse (R.). Die Chemie u. Physiologie der Farbstoffe, Kohlehydrate u. Proteinsubstanzen.

Clowes (Frank). An Elementary Treatise on Practical Chemistry. 2d ed. Post 8vo, pp. 380. London.

Biltz (E.). Vielseitige Anwendung einer scharfen chemischen Reactionsmethode. 8vo. Erfurt. [This method is based mainly upon the phenomena resulting from superimposing a layer of one liquid over that of another, and observing the line of contact.]

Dellingshausen (N.). Die rationellen Formeln der Chemie auf Grundlage der mechanischen Wärmetheorie entwickelt. 2 parts, 8vo. Heidelberg.

Dawikowsky (F.). Die Leim- und Gelatine-Fabrikation. 8vo. Wien.

Gasparin (P. Le). Traité de la détermination des terres arables dans le laboratoire. 8vo, pp. 270. Paris.

Kühne (W.). Über des Secret der Pancreas. 8vo. Heidelberg.

Post (J.). Grundriss der chemischen Technologie. I. Fabrikation der Rohproducte. 8vo. Berlin.

Valentin (W. G.) A Course of Qualitative Chemical Analysis. 4th ed., pp. 270, 8vo. London.

The Art of Brewing on Scientific Principles. New ed. enlarged and improved. 18mo, pp. 240.

Helmsley (W. B.). Handbook of Hardy Trees, Shrubs, and Herbaceous Plants. Based on the French work of MM. Decaisne and Naudin. 8vo, pp. 720.

Craig (William). Milne's Posological Tables. Being a Tabular Arrangement of all the Medicines contained in the British Pharmacopœia, with Dose, Action, and Form of Administration. 32mo.

Ross (Wm. A.). Pyrology; or, Fire Chemistry. 4to.

Smoker's Guide, Philosopher, and Friend, etc., etc. Historical, Botanical, Manufactural, Anecdotal, Social, Medical, etc. 12mo, pp. 132.

Vizetilly (Henry). Facts about Sherry. Gleaned in the Vineyards and Botégas of Jerez, Seville, Moguer, and Montilla Districts during the Autumn of 1875. With numerous illustrations from original photographs and sketches. 12mo, pp. 100.

BOOKS AND PAMPHLETS RECEIVED.

Fox (Tilbury). Epitome of Skin Diseases, with Formulæ. Henry C. Lea.

Routh (C. H. F.). On Overwork and Premature Mental Decay: Its Treatment. 8vo (12.5 x 18.5 c.m.). From the author.

Foster (M.). A Text Book of Physiology. Macmillan & Co.

Fotheringill (J. Milner). The Practitioner's Handbook of Treatment; or the Principles of Therapeutics. Henry C. Lea.

Noback (Fried.). Münz-, Maas-, und Gewichtsbuch. Das Geld-, Maas-, und Gewichtswesen, die Wechsel und Geld-Kurse, das Wechselrecht und die Usanzen, etc., aller Länder. 2d ed. 8vo. Leipz., 1877. Pp. 1167.

[The most complete of all works on weights, measures, and moneys.]

Proceedings of the American Pharmaceutical Association at the 24th Annual Meeting, held in Philadelphia, Pa., September, 1876. With a portrait of J. Milhau. 8vo. Phila., 1877. Pp. 909.

Pamphlets.

Sayre (Lewis A.). Report on Pott's Disease, or Caries of the Spine Treated by Extension and the Plaster of Paris Bandage. From the author.

Davis (F. H.). Liebig's Extract of Malt and its Chemical Composition, Manufacture, and Therapeutical Uses. From the author.

Parsons (R. L.). Annual Report of the Medical Superintendent of the New York City Lunatic Asylum, (1875).

Squibb (Edward R., M.D.). Note on the Administration of Phosphorus. Republished from the Proceedings of the American Pharmaceutical Association.

Squibb (Edward R., M.D.). The American Medical Association and the Pharmacopœia of the United States. Published by the author, Brooklyn, 1876. 8vo, pp. 59.

Transactions of the Wisconsin State Medical Society, 1876. 8vo, pp. 149.

Transactions of the Colorado State Medical Society, 1876. 8vo, pp. 90.

Krause (Dr. G.). Die Industrie von Stassfurt und Leopoldshall, und die dortigen Bergwerke. 8vo. Cöthen.

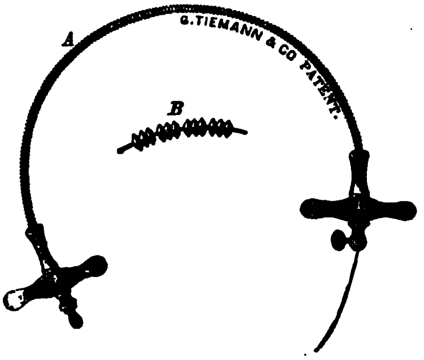
Hoffmann (Dr. R.). Sammlung aller wichtigsten Zahlen und Formeln für Chemiker. Herausg. v. Dr. Carl Schädler. 8vo. Berlin.

King (Geo.). A Manual of the Cinchona Cultivation in India. Fol. Calcutta, Govern. Print. Off., 1876.

PHARMACEUTICAL SUNDRIES AND NEW INSTRUMENTS.

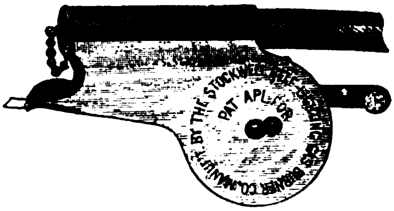
A New Saw.

Messrs. George Tiemann & Co., Surgical Instrument Makers of this city, have produced an entirely novel saw, the invention of Mr. F. A. Stohlmann, whose ingenuity has already done so much to improve the armamentarium chirurgicum. It is intended to replace the chain-saw in common use, and is entirely free from the tendency to bind, kink, and break which characterizes the latter instrument. It consists, as will be seen in the cut, of two handles connected by a wire of cast-steel, on to which are strung a series of steel beads with sharp cutting edges. The instrument might indeed be called a file quite as appropriately as a saw, and its action on a bone is said to be more like that of the first-mentioned tool, in the absence of such rough edges as are made by the saw in common use. No needle is required to carry it through or around a bone, and its beads can be readily strung on to a new wire in case of a break. Another advantage lies in the fact that the beads, by their free rotation, present fresh cutting edges; and still another is the considerable difference in price between this instrument and the ordinary chain-saw.



Self-Lighting Gas-Burner and Matchless Cigar-Lighter.

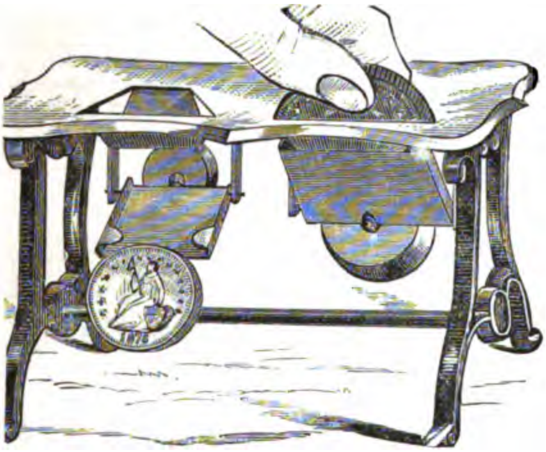
The Stockwell Self-Lighting Gas-Burner Co. offer for sale a gas-burner which is lit by the motion of opening the cock, and a lighter for cigars in which a modification of the same mechanism ignites a fuse. A ribbon of paper has on it, at intervals, a fulminating mixture which is exploded



by a spring hammer. In the lighter, a cut of which is here shown, pushing in the slide shown at the right end, moves the ribbon along the proper distance and disengages the lock. The convenience with which the burner can be lit instantly makes it especially valuable for a dispensing counter, and the cigar-lighter is already having a large sale among smokers. The burners cost, at retail, $0.75 to $1.00; the lighters something less. Each roll has 135 lights, and sells at 25c. for four.

Counterfeit-Coin Detector.

Now that we are returning to the use of coin in making change, it is found that the number of counterfeit pieces may be counted by hundreds of thousands. Mr. James Brooks, of the Government Secret Service, quite recently discovered 40,000 counterfeit fifty-cent pieces in one hiding-place, and one can judge from that how common they must be in the pockets of the community. Some of these spurious pieces are so perfect in their workmanship that, aside from the fault of their light weight, they are with difficulty detected by variations in size, feel, and general appearance. Apothecaries are quite as much exposed as any other dealers to fraud from this source, and can as little afford to run the risk of making change with counterfeit pieces, however innocent they may be of intention. It is not, therefore, out of place to call their attention to a remarkably ingenious contrivance sold by Baldwin, Boynton & Co., at 111 Nassau St., in this city, which measures, weighs, and rings quarter and half dollar pieces in the most expeditious manner. Two little hoppers are arranged so as to permit the passage respectively of twenty-five and fifty-cent pieces, which then slide upon the pan of a balance. If they are of proper weight, the pans are tipped down until they slide out onto the counter or table. If, however, they are too light, they are retained in the pans. By shifting the position of the counterbalancing weights, the test can be made as delicate as any scales. If, in order to secure proper weight, the spurious piece has been made larger than the genuine, the gauge (shown on the edges of the smaller of the pans in the cut), will prevent its entrance. By placing the apparatus on a solid or resounding base, we have found that the "ring" of the coin as it drops from the pan affords another evidence of its character. These tests sell for $2.50 or $3.00 apiece, according as they are or are not nickel-plated.



Matthews' Soda-Water Apparatus.

We had the pleasure of visiting the exhibition of Soda and Mineral Water Apparatus which Mr. John Matthews gave during the first ten days of this month at his salesrooms and manufactory on First avenue. It would be quite impossible to describe in the space at our command the novelties and beauties of the various appliances shown and which are connected with this extensive business. Until quite recently this has been a peculiarly American specialty, and there is little question that even now the elegance of the dispensing apparatus and perfection of the generating machines excel anything made in other countries. Among the manufactories here, the one we refer to has few if any equals, and the exhibit made this year shows that constant progress is being made, not only in the beauty of designs, but also in adapting the apparatus to the wants of various localities and business circumstances. In the way of draught apparatus a range of about forty designs, and prices from $12 to $4,000, ought, certainly, to suit almost any taste or pocket. Not the least attractive features of the display were the artistic surroundings and arrangement of the rooms and stock.

Champaca.

Michelia Champaca (Linn.) is a native of India, and belongs to the Magnoliaceæ. Like most others of this order, its flowers are strongly odoriferous, and if the perfume of this name made by Rigaud & Co., of Paris, may be taken as an indication, their fragrance must be very agreeable. Fougera, of 30 N. William St., is agent for this new perfume in New York, and furnishes it put up in handsome, globe-stoppered, two-ounce bottles for $8.00 per dozen.

In the report of the Committee of the Centennial Exhibition appointed by the Amer. Pharm. Assoc. it is stated that the essential oil of champac[c]a is supposed to be derived from an orchid grown in the Philippine Islands, and that its cost is greater than that of Ihlang-Ihlang. The latter is twice as expensive as the finest otto of rose.

Perfumes of Ch. Rameau.

Messrs. McKesson & Robbins have shown us a box containing a half-dozen of Ch. Rameau's handkerchief perfumes (of which the adjoining cut is a fair representation), which, aside from the good quality of the extracts, is so taking in the way it is gotten up that it cannot fail to please. Each bottle has its label printed in gold upon a distinctive shade of satin. A satin band of the same color, with the name of the perfume, surrounds the neck, and the cork is covered with the same material, tied with a gilt cord. Each bottle is then surrounded with a shield of pasteboard, and a wrapper of satin like that used for the bottle covers all. A gilt seal fastens the folds at the end, and the label in the front is also printed in gold. Each bottle is then placed in a compartment of a neat box made of a light wood like poplar. They sell for $6.50 per half-dozen.

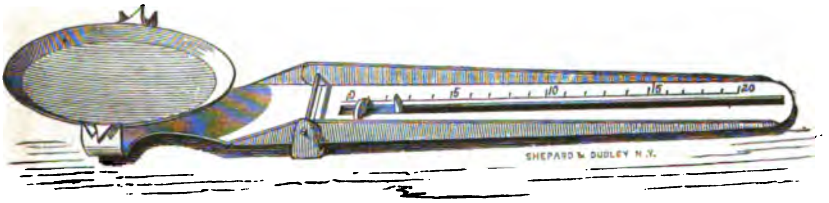
Becker's Metric Weights.

In February last we published an illustration of Becker & Son's new balance, which had been so highly recommended for its adaptability to the requirements of the prescription counter. They now offer a set of metric weights, as shown in the cut below, which for beauty, accuracy, and cheapness, can hardly be excelled. The smaller pieces are of aluminium, and range from 1 centigramme to 5 decigrammes (50 centigr.). The larger pieces are of turned brass, and embrace convenient sizes from 1 gramme to 100 grammes. The cover is lined with velvet, which serves not only to keep the smaller pieces from shifting, but makes also a dust-tight packing. The price is $5.50, and their accuracy is guaranteed.

Those apothecaries who contemplate the purchase of a set of metric weights in order to be prepared for prescriptions in which this system is employed, cannot do better, all things considered, than write to the Beckers, at 232 East 128th street.

Rhea's Pocket Scales.

Shephard & Dudley, well-known importers and manufacturers of surgical and medical instruments, etc., offer for sale a novelty in the way of scales adapted for weighing small quantities of medicine, a cut of which is appended, which shows the full size of the smaller of the two kinds. The beam is hinged at the fulcrum, the sliding saddle serves as a weight, and the removable pan rests on sharp points. We have tested it several times, and find it sufficiently accurate for ordinary purposes. It is more convenient than the usual balance-scale with cords and pans; is compact (its case occupying but 2¾ × 1¼ × ¼ inches in its diameters), and for the physician's pocket or for the family medicine chest it will be very handy. The two sizes sell for 50c. to $1.00 each, with liberal discounts to the trade.



◆

Prof. H. H. Babcock, of the Chicago College of Pharmacy, has resigned the Chair of Botany on account of ill-health, and Prof. H. D. Garrison is to complete the lectures in the course, in addition to his other duties as professor of Materia Medica.

M. Méhu has been elected to the office of Vice-President of the Société de Pharmacie.

NOTES, QUERIES AND ANSWERS.

[*Under this heading we shall, to the best of our ability, endeavor to answer such questions addressed to us as come within the scope of this journal, providing they are accompanied by the name and address of the writer. Answers to queries received after the 5th of the month will lie over until the next issue.*]

◆

Preservation of Vegetable Bitters. (G. S., Chicago).—Vegetable fluid extracts, such as you describe, cannot be kept long without the addition of a preservative in the shape of alcohol or sugar, or some other protecting agent. If you were to indicate to us the nature of the ingredients and the state of concentration, we might possibly be able to give you more information.

Ferrum Dialysatum (A. W. S., Cincinnati).—The following are Dr. Hager's directions for preparing this compound, which is also called Liquor Ferri Peroxychloridi or Liquor Ferri Subchloridi. Dilute 10 parts of solution of ferric chloride with cold water, precipitate it with dilute (1:10) water of ammonia, wash the precipitate with cold water and add it, while still moist to 11 parts of solution of ferric chloride contained in a sufficiently capacious flask. Put it aside for one day, frequently agitating, until the ferric oxide is dissolved. Filter if necessary, transfer the solution to a parchment-dialyser, which must be filled so that the surrounding water reaches to one-third of the height of the within contained solution. Set the apparatus aside in a cold place for about 10 days, and remove the outer liquid occasionally, replacing it by pure water. As soon as a small sample of the solution removed from the dialyser ceases to produce cloudiness with silver nitrate, the solution is poured out into a beaker, and its specific gravity taken, which should be 1045 to 1046; if found to be too dilute, it must be concentrated by evaporation; otherwise it must be diluted. 100 *parts of this solution contain* 5 *parts of anhydrous ferric oxide.* Supposing the specific gravity of 240 parts of the solution had been found to be 1018, this would correspond to a percentage of 2 parts of anhydrous ferric oxide. Then by saying: $5 : 2 = 240 : x$, we find x to be 96; that is, the 240 parts of specific gravity 1018 must be evaporated to 96 parts to contain 5 per cent. of ferric oxide, or, which is the same thing, to have the specific gravity 1045. This evaporation must be conducted very carefully, by heating a portion of the solution (about 90 parts), in a shallow capsule on the water-bath, at a temperature not exceeding 60 or 70° C., stirring constantly with a glass rod, and preserving the original height of the liquid by the gradual addition of more of the solution.

The solution has an intense reddish-brown color, a slightly styptic taste, and must be kept in glass-stoppered vials in a cool and dark place. During its preparation daylight and heat must be avoided as much as possible. This solution contains the following percentages of ferric oxide:

Spec. Gr.	% Fe_2O_3	Spec. Gr.	% Fe_2O_3	Spec. Gr.	% Fe_2O_3
1102	10.	1063	6.5	1027	3.
1096	9.5	1057	6.	1022	2.5
1091	9.	1052	5.5	1018	2.
1085	8.5	1046	5.	1014	1.5
1079	8.	1041	4.5	1009	1.
1074	7.5	1036	4.	1004	0.5
1068	7.	1031	3.5		

A less circumstantial process, which however yields a less pure product, is the following: Dilute 85 parts of ferric chloride solution with 800 parts of cold distilled water, precipitate it with dilute (1 : 10) water ammonia, collect the precipitate on a strainer, squeeze it, wash it as quickly as possible with cold distilled water, and transfer it into a large flask containing 10 parts of solution of ferric choride diluted with 40 parts of distilled water. Set aside for four days in a cold place, and shake frequently. Then add to it moist hydrated ferric oxide prepared, as before stated, from 25 parts of solution of ferric chloride, set again aside for 3 or 4 days, occasionally agitating. Dilute the solution with water, so that after filtration it amounts to 520 to 525 parts. If too dilute it must be carefully evaporated to that weight. This solution has the same spec. grav. and percentage as the first mentioned one.

To Purify Mutton-Suet. (F. W. L., Phila.)—Unless the suet is very old or rancid, there is no necessity of using any saline compounds in its preparation. The usual way is to boil the suet with a little water, which should be repeated until it is quite sweet and free from unpleasant smell.

Technological Works. (Rod. A. Wh., Cincinnati.)—The following works may answer your purpose:

MAIER, Karl. Die Ausbrüche, Secte und Südweine. Vollständige Anleitung zur Bereitung aller Gattungen . . . . Weine, etc. 8vo, pp. 160.

SCHÖNBERG, Alois. Populäres Handbuch der Spiritus- und Presshefen-Fabrikation. 8vo, pp. 176.

GABER, Aug. Die Liqueur-Fabrikation. 8vo, pp. 384.

ASKINSON, G. W. Die Fabrikation der ätherischen Oele. 8vo, pp. 224.

Key-Tse-Sing. (E. A. A., Oblong, Ill.)—We have traced this substance, also called Tsa-Tsin, as far back as 1849, and have taken steps to obtain further information. As soon as it is received we will advise you.

Salicylic Acid. (Dr. O. C. F., Putnam, O.)—The formula for salicylic acid mixture, published on p. 371 of our last volume, has been tried by us, and we have found the same trouble as you: it precipitates, or rather, all the acid is not dissolved. If you increase the quantity of glycerine to two fl. oz., and the quantity of potassium bicarbonate to grs. 100, you will obtain a clear solution, which is at the same time almost neutral; 122 grains of the acid require 100.1 gr. of potassium bicarbonate for neutralization.

A. O. H. (Prescott, Can.)—We shall try and get the formula for you for next issue, if possible.

Formulæ for Elixirs. (J. D. S., Worthington, Mass.)—The desired formulæ are nearly all prepared with a standard non-medicated simple elixir, of which two varieties are in use, one being colorless, the other colored. Formulæ for these, as well as the others mentioned, may be found on page 62 of this number.

Cheap Ink for Shoemakers' Use.—A subscriber desires a receipt for making a *cheap* ink, for shoemakers' use. He says that he has been in the habit of supplying the following, which was found to answer well, but is too dear:

Alcohol	1 pint.
Tincture of Iron	3 fl. ounces.
Extract of Logwood	1 ounce.
Powdered Galls	½ ounce.
Olive Oil	½ ounce.

Condurango. (G. S. R., Providence, R. I.)—Condurango was about 1870–72, extensively advertised as a cure for cancer. We have seen one case of scirrhus of the breast in which it appeared to be a palliative, but we have heard of no case where it effected a cure. It does appear to have properties as a tonic, and can be had in the market for *about* 50 cents per lb.

Rosin-Weed. (M. W. P., Newark, N. J.)—*Silphium gummiferum*, or rosin-weed, is one of several species of Silphium, which, according to King, yield by exudation and incision a fine, fragrant, and bitterish gum, like frankincense, white or amber colored, and is sometimes chewed by the Indians, at the West, to sweeten the breath. It frequents rich bottom lands, and bears large yellow flowers in August. Its large, long, and crooked root is the officinal part, and its properties are imparted to water or alcohol. It is said to be emetic in decoction. Its resinous secretion, which is abundant, very closely resembles mastich, and might be used in place of it. This resin appears to have diuretic properties, increasing the flow of urine, and imparting to it an aroma. The root may be prepared by cutting it into small pieces, covering layers of it with loaf-sugar, and pouring on brandy. After standing several days, express, strain, and bottle for use. This is recommended by King as an expectorant. The fluid extract, so far as we can learn, is made in the usual manner.

NEW PATENTS AND LAWS.

[*We will furnish gratis, to subscribers, any information relating to new patents which can be obtained from the Official Gazette of the Patent Office; and for* 50*c. will give copies of the drawings of such as are illustrated. Electrotypes of the illustrations contained in* NEW REMEDIES *will be furnished for* 50*c. per square inch.*]

TRADE-MARKS REGISTERED IN U. S. PATENT OFFICE.

Certificate dated Nov. 28, 1876.

4,156. **Adhesive Cement.**—John A. Keenan, Camden, N. J. "A representation described as follows: A weight suspended from a broken article that has been repaired, or from pieces of material that have been united, thus apparently illustrating the strength of the cement."

Certificates dated Dec. 5, 1876.

4,173. **Medical Preparation.**—John Fareira, Philadelphia, Pa. "The word-symbol 'CONTINENTAL.'"

4,176. **Volta or Electro-Galvanic Goods for Medical Purposes.**—John E. Hetherington, Cincinnati, Ohio. "A symbol or device consisting of the representation of a group of elements arranged to form a volta-galvanic or electric chain or battery, or of a part of a chain or battery, from which lightning-flashes proceed. Across the face of the above-described symbol are arranged the words 'Pulvermacher Galvanic Co.,' and below is a correct fac-simile of the autograph signature of J. L. Pulvermacher."

4,177. **White Lead.**–Samuel Jacobs, New York, N. Y. "The arbitrary words 'GOLD SEAL.'"

4,192. **Grocers' Drugs and Sundries.**—Samuel Wilde's Sons, New York, N. Y. "The representation of a boar's head."

Certificate dated Dec. 12, 1876.

4,205. **Medical Compound of Oils.**—Koh-I-Noor Manufacturing Company (limited), Philadelphia, Pa. "The word-symbol 'KOH-I-NOOR.'"

Certificates dated Dec. 19, 1876.

4,209. **Medical Compound.**—Edwin F. Babbage and Edward F. Babbage, Rochester, N. Y. "The letters P. H. A. T. in duplicate, being initials to the words 'Please Have A Tonic,' and be 'Phat, Healthy, And Tough,' arranged around, above, and below an oval figure, within which are likenesses of the applicants."

4,213. **Medical Compound.**—George H. Fairbanks, Boston, Mass. "A figure of a man in full winter costume, upon which is inscribed the 'Hit-a-oss.'"

4,221. **Medical Compound.**—John M. Grosvenor, New York, N. Y. "The word-symbol 'LIVERAID.'"

4,222. **Medical Plasters.**—John M. Grosvenor, New York, N. Y. "The word-symbol 'BILANODYNE.'"

4,229. **Medical Compound.**—Robert Rohland, New York, N. Y. "The words 'Dr. Lobethal's Essentia Antiphthisica.'"

Certificates dated Dec. 26, 1876.

4,232. **Remedy for the Cure of Asthma.**—Joseph H. Guild, Rupert, Vt. "The fanciful words 'GREEN MOUNTAINS.'"

4,233. **Medical Preparation.**—Wilmer L. Keller, Baltimore, Md. "The arbitrary-selected words 'LIFE DROPS.'"

4,236. **Bitters.**—William H. Knoepfel, New York, N. Y. "The word-symbol 'ANGOSTURA.'"

4,239. **Cologne.**—George E. Mitchell, Lowell, Mass. "The words 'Mitchell's Memorial' used in connection with a picture of the Art Gallery."

4,240. **Medical Preparation.**—John M. Richards & Co., New York, N. Y. "The word-symbol 'HYDROLEINE.'"

4,244. **Preparation for the Hair.**—F. R. Taylor & Co., Baltimore, Md. "A triangle, within which is a druggist's mortar and pestle, with an anchor above it. To the anchor is attached a rope, which falls down and curls around the lower portion of the mortar, the whole being enclosed by a ring."

LABELS.

Certificates dated Nov. 28, 1876.

913. **"Ashley's Healing Compound."**—Silas E. Ashley, New Bedford, Mass.

914. **"Dr. Freeman's Anodyne Cough Remedy."**—D. S. Freeman, Tidioute, Pa.

915. **"Dr. C. McLane's Lung Syrup."**—W. L. McCord & Co., Pittsburg, Pa.

916. **"Herb Wine—Rigg's Radical Cure for Dyspepsia."**—James Rigg, Dubuque, Iowa.

Certificate dated Dec. 5, 1876.

921. **"La Vert Compound Vegetine Extract of Helianthus Annus, or Common Sun-Flower."**—San Francisco Manufacturing Company, Chicago, Ill.

Certificates dated Dec. 12, 1876.

922. **"Spongoid Capsicum Drafts."**—John F. French, New York, N. Y.

923. **"Pickett's Gettysburg Bitters."**—Charles Pickett, Norfolk, Va.

925. **"Bottled Plaster Salve."**—William S. Moat, Philadelphia, Pa.

926. **"Olive Liniment."**—Charles Roak, New York, N. Y.

927. **"Liquorice Coated Pills."**—Henry Thayer & Co., Cambridge, Mass.

931. **"E. K. Thompson's Sugar-Coated Dandelion and Mandrake Pills."**—Ebenezer K. Thompson, Titusville, Pa.

932. **"E. K. Thompson's Sweet Worm-Powder."**—The same.

933. **"E. K. Thompson's Great Healing Ointment."**—The same.

Certificates dated Dec. 26, 1877.

935. **"Infallible Eye-Wash."**—William E. Clarke, Providence, R. I.

936. **"Strongest Tincture."**—Lewis Sherman, Milwaukee, Wis.

PATENTS.

Patents granted Nov. 28, 1876.

184,762. **Explosive Compositions.**—Chas. De Lacy, San Francisco, Cal. An explosive compound consisting of pyroxyline, saw-dust, nitrate and chlorate of potash, and nitroleum.

184,804. **Surgical Saws.**—Frederick A. Stohlmann, Brooklyn, N. Y. [See cut and description on page 55.]

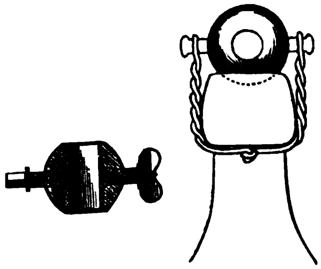
184,815. **Apparatus for Treating Substances with Hydrocarbon.**—William Adamson, Philadelphia, Pa.

184,825. **Methods of Preventing Dross in Galvanizing-Vessels.**—Joseph Bond, Jr., Philadelphia, Pa., assignor of one-half his right to Chas. F. Odiorne, same place. Plates the vessels with nickel.

184,883. **Bottle Stoppers,** etc.—J. L. Megret, Bordeaux, France.

184,898. **Apparatus and Processes for treating Wood for Charcoal and other Products.**—Henry M. Pierce, Detroit, Mich.

184,908. **Bottle Stoppers.**—W. A. Root, Bennington, Vt. To pour out the contents of the bottle, the globular stopper is first rotated on its pintles until the orifice in the stopper is in line with the mouth of the bottle.



No. 184,908.

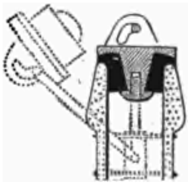
184,925. **Methods of Packing Caustic Alkali.**—Thomas C. Taylor, New York, N. Y. Consists in inclosing the same in a solid molded form in a can, with a surrounding envelope of absorbent powder.

184,927. **Lubricating Oils.**—Joseph M. C. Thomas, Hawleyville, Iowa, assignor of one-half his right to C. M. Paschal, same place. A lubricating-oil composed of sal-soda, borax, prussiate of potash, common salt, castor-oil, sulphate of zinc, and water. The first four ingredients are dissolved in hot water, after which the remainder are added.

184,932. **Dry Electric Piles.**—C. L. Van Tenac, Paris, France, assignor to A. M. Hays, New York, N. Y.

Reissued.

7,408. **Stoppers for Bottles.**—F. Schlich, New York, N. Y., assignor of one-half interest to A. Feyh.



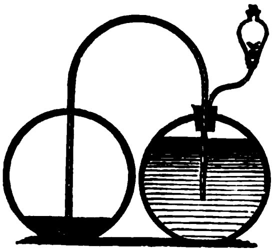
No. 7,408.

Patents granted Dec. 5, 1876.

184,963. **Processes and Apparatus for the Manufacture of Charbon-Roux.**—Geo. L. Harrison, Jr., of Philadelphia, Pa., assignor to Harrison Brothers & Co., same place.

184,966. **Magneto-Electric Machines.**—Alfred G. Holcome, New York, N. Y.

184,987. **Pneumatic Siphon-Pumps.**—V. H. Skiff, New York, and F. Coit, Brooklyn, N. Y. By pressure on the rubber bulb, air is forced into the reservoir, causing the liquid to flow into the empty vessel through the flexible siphon. When pressure in the bulb ceases, air is admitted through its valves to reservoir. By inverting the bulb the valves close.



No. 184,987.

184,984. **Processes of Water-proofing Fabrics.**—Wm. Pugh, Philadelphia, Pa. Consists in first treating them with a compound of caustic soda, gelatine, linseed-oil, tallow, and resin, and after draining the goods, as described, treating them with the salt of alumina as set forth.

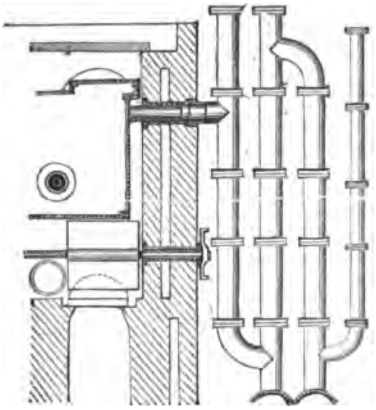
185,001. **Measuring-Faucets.**—R. Wasmansdorff, Genthin, Prussia.

185,003. **Measuring-Faucets.**—John M. Wheeler, Hillsdale, Iowa.

185,040. **Ozone-Machines.**—H. Milsom, Buffalo, N. Y.

185,052. **Roofing Compositions.**—Henry K. Shanck, Clayton, Ohio. A roofing and paving compound consisting of linseed-oil, oxide of manganese, and litharge combined, in the manner described, with shellac, coal-tar, sulphur, and hydraulic cement, the whole prepared in the manner and in the proportions set forth, and for the purposes specified.

185,141. **Manufacture of Acetic Acid.**—The National Chemical Wood-Treatment Co., Brooklyn, N. Y. Wood is distilled at a low temperature for the production of acetic acid. It is inclosed in a retort placed in a close oven, thus being surrounded by an air-bath. The vapors are condensed in an air-condenser. The temperature of the retorts is regulated and controlled by dampers within the ovens. The retorts have wheels for running them into the ovens, their axles extending through the retorts, being protected by tubes. The oven-openings are beveled, forming, with the edges of the doors, V-shaped grooves, into which is packed the luting of clay.


No. 185,141.

Patents granted Dec. 12, 1876.

185,158. **Oil-Can Faucets.**—G. W. Banker, New York, N. Y.

158,160. **Solutions for Galvanic Batteries.**—Louis Bastet, Philadelphia, Pa., assignor to Elihu R. Pettit, same place. 1. The compound resulting from dissolving bichromate of potash in nitric acid so as to produce nitro-chromic acid. 2. The application of the compound, in the proportion of about one ounce of the compound to one pound of sulphuric acid of the strength of 45° Baumé in each porous cup.

185,180. **Lubricating Bottles.**—C. Jones, New York, N. Y.

185,189. **Invalid Chairs.**—Smith H. Platt, Brooklyn, N. Y.

185,214. **Compounds for Disinfecting.**—Henry B. Condy, Battersea, London, S. W., England. Consists of manganate or permanganate of an alkali or alkaline earth and chloride of sodium.

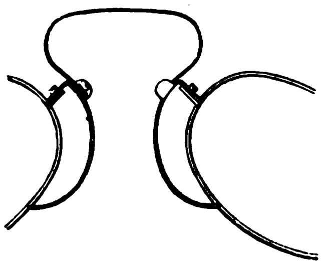
185,249. **Oil-Cans and Faucets.**—A. H. Marshall and Geo. W. Marshall, Lower Lake, Cal.

185,288. **Galvanic Batteries.**—Chas. F. Brush, Cleveland, Ohio, assignor of one-half his right to the Telegraph Supply Company, same place.

185,307. **Apparatus for Evaporating Waste Alkaline Solutions.**—Wm. G. Eutrekin, Philadelphia, Pa.

185,329. **Cup-Leather Packings for Pumps and Syringes.**—Thos. Kennedy, Philadelphia, Pa., assignor to R. McCambridge, same place.

185,342. **Eyeglasses.**—George W. Meigs, Reading, Pa., assignor to Thos. A. Willson, Gilie J. Willson, and C. B. Bishop, same place.


No. 185,342.

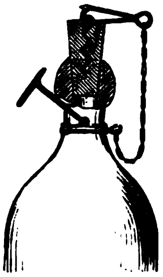
185,356. **Bottle-Washing Machines.**—H. Schmidt and J. Dixon, Morrisania, New York, N. Y.

185,368. **Invalid-Beds.**—Flavius J Underwood, North Springfield, Mo.

185,373. **Invalid-Bedsteads.**—J. U. Wetmore, Erie, Pa.

Re-issued.

7,424. **Bottle-Stopper Fasteners.**—C. H. Porter, Albany. N. Y., assignor to William R. Clough, Newark, N. J.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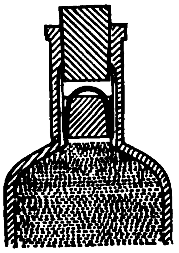
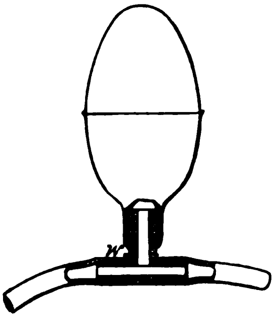

No. 185,433.

185,433. **Liquid Dropper for Bottles.**—C. E. Davis, St. Helena, Cal. A short cork is pushed down into the neck of the bottle, far enough to be out of the way of the larger one above, and is provided with a loop for its extraction. There are grooves in the inner surface of the neck, opposite the site of the short cork, which permit the passage of fluid and air.

185,444. **Invalid-Chairs.**—C. H. Hermance, Boston, Mass.

185,453. **Oil-Tanks.**—Stephen D. Osborne, Keene, N. H.

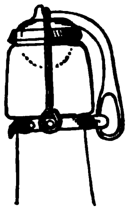
185,464. **Syringes.**—William V. Wallace, Boston, Mass. A metal washer (W) fits loosely over the upright part of the metal connection between the bulb and the single rubber tube, and when forced down holds the rub-



No. 185,464.

ber tightly between its lower concaved surface and an interior metal core.

185,483. **Compositions for Coating the Insides of Barrels.**—D. F. Bowker, Fitzwilliam, assignor to Pargetized Can Company, Keene, N. H. A composition of glue, water, glycerine, nitric acid and chloride of sodium.

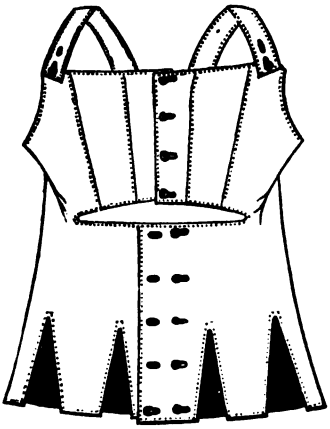

No. 185,556.

185,518. **Bottling Aërated or Effervescing Liquids.**—W. Gee, New York, N. Y.

185,565. **Liquid-Forcing Apparatus.**—W. Noll, Minden, Prussia.

185,556. **Bottle-Stoppers.**—George A. Ohl, Newark, N. J. A rigid curved stopper with a loop in lower end attached loosely to the collar around the neck of the bottle. A pivoted lever closing-bail holds the stopper in place.

185,595. **Combined Abdominal and Breast Supporters.**—E. E. Van Vleck, Chicago, Ill. A combination of breast-supporter and abdominal bandage, joined behind and at the sides, but open in front. Provided with an extra row of button-holes, elastic gussets, and shoulder-straps, as shown. This arrangement is calculated to keep the supporter in position, and permit of its being opened to gain free access to the breast.


No. 185.595.

185,604. **Filter-Racks.**—Henry S. Watt, Boston, Mass. A wire-cloth cone or rack is placed inside of an ordinary funnel, to give support to a paper filter, and keep it from contact with the funnel.

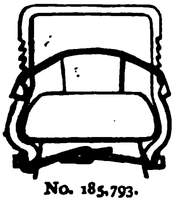
185,614. **Bungs for Barrels.**—John A. Wright, Keene, N. H., assignor of one-half his right to S. D. Osborne, same place.

Patents granted Dec. 26, 1876.

185,622. **Electro-Vapor Baths.**—G. W. Brown, Rockford, Ill.

185,626. **Oil-Cans.**—Wm. H. Clark and Wm. J. Clark, Salem, Ohio.

185,793. **Bottle-Cork Fasteners.**—D. G. Smith, Carbondale, Pa., assignor of one-half his right to J. Kilpatrick, same place. The side bars or standards of the bail are notched on the outside, and pass up through elongated perforations or slots into a flat locking-plate, near the ends thereof. The notches are inclined downwards, so that the hooks which incline upward, when engaged with the notches, cannot be displaced by an upward pushing force.

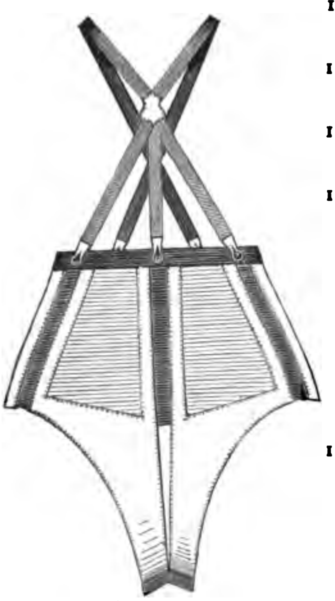

No. 185,793.

185,640. **Apparatus for Manufacturing Hydrosulphurous Acid.**—W. D. Jones, Hagerman's Mills, N. Y., assignor of one-half his right to H. H. Pawling, same place.

185,667. **Making Salt.**—A. T. Brown, Zilwaukie, Mich.

185,669. **Compositions for Coloring Wood.**—J. G. Cashin, Gardner, Mass.

185,680. **Label-Holders.**—S. A. Hughes, Brooklyn, N.Y.


No. 185, 782.

185,694. **Bottle Stoppers.**—Q. S. Newton, Binghamton, N. Y.

185,697. **Nozzles for Cans.**—S. R. Pinkney, New York, N. Y.

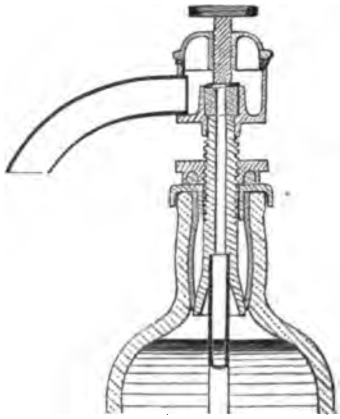
185,731. **Weighing Scales.**—L. W. Cross, Angola, Ind.

185,748. **Paint Cans.**—P. Hickey, Philadelphia, Pa., assignor to Le Compte & Perkins Manufacturing Co. (limited), same place, and said Le Compte & Perkins Manufacturing Co. (limited) assignors to Geo. H. Perkins, same place.

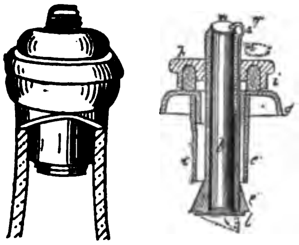
185,782. **Abdominal Supporters.**—Ruth T. Reed, Rochester, Ind. The suspending straps of the supporter are attached so as not to press upon the breasts, and the perineal straps are in one and the same piece with the body of the supporter.

Patents granted Jan. 2, 1877.

185,852. **Combined Siphon-Tap and Stopper for Aërated Liquid Bottles.**—H. J. Cole, Wandsworth Road, England.—The combination, in a bottle-stopper, of an elastic packing and a cone for expanding the same, with a siphon tube and a valve, whereby the apparatus, as a whole, may be attached to or detached from the bottle at will.


No. 185,852.

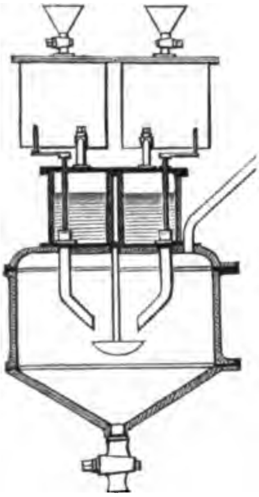
185,853. **Siphon-Tap and Stopper for Aërated Liquid Bottles.**—Henry J. Cole, Wandsworth Road, England. 1. A bottle-stopper provided with an elastic packing *c*, and a tube, *b*, having a cone, *e*, for expanding the packing, in combination with a valve, *l*, having a wire or rod, *n*, for operating the same; *h* is a screw-cap for tightening the elastic packing.



No. 185,853.

185,900. **Stills.**—J. G. Ellerhorst, Bellevue, Ky.

185,964. **Apparatus for Manufacturing Sulphurous Acid.**—Alvaro F. C. Raynoso, Paris, France. The acids and solutions from which the sulphurous acid is generated are brought from the supply tanks, and the chemical reaction takes place in the cups.



No. 185,964.

PRESCRIPTIONS AND FORMULÆ.

Elixir of Monobromated Camphor. (Dambier.)

Monobromated Camphor	0.50 grammes.
Alcohol, 56 per cent	60. "
Powdered Sugar	40. "

Dissolve the sugar in the alcohol with the aid of heat, and filter if necessary; in the clear hot filtrate dissolve the monobromated camphor, and flavor according to taste. A tablespoonful of this elixir weighs about 20 grammes, and contains 0.10 gm., or 1½ grains of monobromated camphor.

Bronchial Tablets. (Salmiak-Pastillen, Tablettes pectorales, etc.)

℞.	Ammonium Chloride	10 parts.
	Powd. Ext. Liquorice	80 "
	Powd. Sugar	30 "
	Powd. Tragacanth	2 "
	Glycerine	5 "
	Distilled Water	q. s.

Make into a mass, to be divided into rhombic tablets, 10 or 12 m.m. long. *(Pharm. Centralh.)*

Boracic Acid Ointment. (Lister's).

℞	Boracic Acid, powdered	1 part.
	White Wax	1 "
	Oil of Almonds, expressed	2 "
	Paraffin	2 "

Melt. Stir thoroughly in a heated mortar till the mass begins to thicken.

Casein Cement.—An excellent cement, or liquid glue, may be prepared by coagulating milk with acetic acid or vinegar, washing the precipitated casein with pure water, and then dissolving it in a saturated solution of borax. This produces a clear liquid, of thick consistence, which has an extraordinary adhesiveness and a great lustre.

Administration of Salicylic Acid.—Mr. J. U. White, of Clifton, England, is the author of a statement that the combination of salicylic acid with one-tenth its weight of borax, and the same proportion of glycerin and gum tragacanth, makes an excellent pill mass. A 6½ grain pill will contain 5 grains of acid, and will not be inconveniently large.

Aromatic Elixir Rhubarb and Fluid Magnesia.

By "COUNTRY CHEMIST."

Amongst all of the published formulas for elixirs I have been unable to find one for this, which in some sections of the country has quite an extensive sale. I have found that the following makes an excellent article:

℞.	Rhubarb (in coarse powder),	3 ℥ and 90 grs.
	Sulphate Magnesia	2 ℥ and 96 grs.
	Sugar	4 ℥
	Spts. Menth. Pip., *U.S.P.*	1 ʒ
	Alcohol,	
	Water	āā q. s.

Moisten the rhubarb with dilute alcohol and pack in a cylindrical percolator. Percolate with a menstruum of one part alcohol to four parts water, until two pints of tincture are obtained. To this add the sulphate of magnesia, sugar and peppermint, and let it stand in a moderately warm place for twenty-four hours, then filter.

Simple Elixir.

℞.	Spirit of Orange (1:10)	2 fl. ʒ
	" Cinnamon (1:10)	10 ♏
	Alcohol	4 fl. ℥
	Syrup	6 fl. ℥
	Water	6 fl. ℥

Red Elixir.

℞.	Simple Elixir	15½ fl. ℥
	Comp. Tinct. of Cochineal	½ fl. ℥

Elixir of Calisaya.

℞.	Tinct. Cinchona	3 fl. ℥
	Simple Elixir	13 fl. ℥

Mix and filter.

Elixir of Calisaya and Iron.

℞.	Elixir Calisaya	15 fl. ℥
	Warm Distilled Water	1 fl. ℥
	Ammonio-citrate of Iron	128 grs.

Dissolve the iron in the water and mix.

Elixir of Iron and Quinia.

℞.	Iron and Quinia Citrate	256 grs.
	Distilled Water	1 fl. ℥
	Simple Elixir	15 fl. ℥

Dissolve and mix.

Elixir of Iron, Quinia, and Strychnia.

℞.	Quinia (alkaloid)	128 grs.
	Strychnia (alkaloid)	2½ grs.
	Pyrophosphate of iron	256 grs.
	Alcohol	5½ fl. ℥
	Spirit of Orange (1 : 10)	½ fl. ℥
	Distilled Water	4 fl. ℥
	Syrup	6 fl. ℥

Dissolve the pyrophosphate of iron in the distilled water and add the syrup; dissolve the strychnia in the alcohol, add the spirit of orange, and then the quinia; mix the two solutions.

Elixir of Calisaya, Iron, and Bismuth.

℞.	Ammonio-citrate of Bismuth	256 grs.
	Ammonio-citrate of Iron	256 grs.
	Distilled Water, warm	2 fl. ℥
	Elixir of Calisaya	q. s. ad. 16 fl. ℥

Elixir of Beef, Iron, and Wine.

℞.	Extract Beef (Liebig's)	½ ℥
	Ammonio-citrate of Iron	256 grs.
	Spirit of Orange (1 : 10)	½ fl. ℥
	Distilled Water	1½ fl. ℥
	Sherry Wine	q. s. ad. 16 fl. ℥

Dissolve the ammonio-citrate of iron in the water; dissolve the extract of beef in the sherry wine; add the spirit of orange, and mix the solutions.

Elixir of Calisaya, Iron, Bismuth, and Strychnia.

℞.	Ammonio-citrate of Bismuth	256 grs.
	Citrate of Iron and Strychnia	128 grs.
	Distilled Water, warm	2 fl. ℥
	Elixir of Calisaya	q. s. ad. 16 fl. ℥

Note.—128 grains of citrate of iron and strychnia, U.S.P., contain about 1¼ grain strychnia.

Elixir of Pepsin and Bismuth.

℞.	Saccharated Pepsin	256 grs.
	Ammonio-citrate of Bismuth	256 grs.
	Spirit of Orange	½ fl. ℥
	Syrup	2 fl. ℥
	Sherry Wine	q. s. ad. 16 fl. ℥

Elixir of Pepsin, Bismuth, and Strychnia.

℞.	Acetate of Strychnia	1 grain.
	Elixir of Pepsin and Bismuth	16 fl. ℥

N.B. The quantities of active ingredients, as iron or alkaloids, in these preparations, is supposed to be indicated or directed by the physician, who may vary them as occasion requires.

"Digerentia Lozenge."—A new remedy for dyspepsia. The composition of this lozenge, originated by Dr. Elmer, is as follows:

Lacto-phosphate of Lime	gr. 1.
" " " Magnesia	gr. 1/8.
" " " Iron	gr. 1/16.
Pepsin	gr. 1.
Diastase	gr. 1.
Oil of Musk	gr. 1.
Glucose	q. s.

They may be obtained from the wholesale agents, McKesson & Robbins, N. Y.

Cod Liver Oil Jelly.—The following formula, published by Mr. Pratt, of York, England, originated with Mr. Agnew, of Liverpool, and is highly recommended:

	Parts.
Ol. Morrhuæ	72.000
Sacch. albi	16.880
Acidi citric	0.600
Gelatinæ	2.760
Aquæ	7.560
Ol. essent	0.200
	100.000

Preparation of Raw Meat.—The following directions are given by the *Journal de Pharmacie* or the preparation of raw meat for invalids: Beef is preferable to mutton. The fat should be removed (one reason being that it may contain cysticercus). The best part is the *rump steak* (*sic*). The fibres are here best suited for rasping (*râpage*) in longitudinal direction. This is the best mode of division. Chopping removes from the meat most of its juice, and does not give such good division. The rasping is done with a sharp knife-blade—the sharper the better. The piece of meat should be pretty thick, and of lozenge shape; the rasping can be done on all the facings, in the natural direction of the muscular fibre. The piece should rest, held by one end, on a resistant and slightly inclined plane. The meat is generally reduced to the form of a pill or bolus, which is rolled in powdered sugar or crumbs of bread. If it cannot be taken thus, it may be given under the mask of bouillon, which should be cold. One of the best methods is to prepare a thin porridge of tapioca; let it cool until it cannot cook the meat in the least. Then the meat, finely rasped, is introduced into a small quantity of the cold soup till the mixture is complete. This mixture has the aspect and consistence of a fine soup of tomatoes. Next the tapioca porridge is gradually poured on this soup, the mixture being constantly stirred. Thus a homogeneous porridge is obtained, in which the meat is so well concealed that no one would detect it unless previously advised of its presence.

For Chilblains.—Melt together in a suitable vessel, three ounces beeswax, three ounces Venice turpentine, eight ounces lard, and one pint sweet oil. Stir these well together, and raise the temperature till the mixture simmers; then allow it to cool. This should be applied to the feet on a piece of cloth when going to bed.

Neuralgic Pill.

℞	Quiniæ sulphatis	gr. i.
	Ferri et potassæ tart	gr. ij.
	Morphiæ sulph	gr. 1/24 ad 1/12. M.

Take every hour until an expected paroxysm has been missed.

Recommended by Mr. Gregory and Dr. Brudenell-Carter, in periodic neuralgia, l. c., p. 121.

ITEMS.

College of Pharmacy of the City of New York.—At a Conversational Meeting of the members of the College, held on Thursday evening, January 18th, the subject of the Metric System was discussed in its various bearings. All the members who took part in the discussion were in favor of its adoption (some of the remarks made will be found on page 52, and it now only remains to be seen whether physicians will observe their resolution, passed at the meeting of the County Medical Society. For the benefit of the medical profession, we desire to state that many pharmacists have provided themselves with the requisite weights, and will be ready to use them when called upon.

The examination of the candidates for graduation will take place as follows: Feb. 19, 21, 23, from 6 to 7 P.M., Practical Examination. March 1, 3, 6, from 1 to 6 P.M., Theoretical and Oral Examination.

The annual meeting of the College, at which officers for the ensuing year are to be elected, will be held on Thursday, March 15th, at 8 P.M. The Commencement will take place on Tuesday, March 20th, at 8 P.M., at Chickering Hall.

Teli.—The Jardin d'Acclimatisation of Paris has received a number of specimens of *Erythrophlæum Guineense*, the source of the poisonous mancona bark or teli used by the natives of Africa in ordeals. Its proper home is the neighborhood of the Rio Nunez, which empties into the Atlantic under 10° 10′ N. L., in Senegambia. [See also p. 39.]

A Useful Vegetable Oil.—The French Consul at Canton has drawn attention to a tree the oil of which he thinks might be used as a preventive against the ravages of the phylloxera. The tree is the *Elæococca Vernicia*, and the oil it yields is universally used in China for protecting the wood of houses, ships, furniture, etc., from the pernicious effects of moisture and the ravages of insects. It renders any texture impenetrable, is a powerful siccative, and enters largely into the composition of the Japanese varnish.

The Night Medical Service in Paris.—Since this service was inaugurated on the 1st of January, 1876, 12,768 persons have applied for assistance, and a very large proportion have reimbursed the expenses.

Early Closing among London Druggists.—A movement has commenced among the chemists and druggists at the West End of London for lessening the number of hours during which their shops will be kept open.

Monument to Linnæus.—The monument to Linnæus is to be unveiled in Stockholm on the 10th of January next. 36,000 crowns have already been collected.

The Legal Value of Foreign Coins.—In accordance with the law passed in 1873, which provides that the Director of the Mint shall make an annual estimate of the values of the standard coins in circulation, of the various countries of the world, which estimate shall be proclaimed on the first day of January, by the Secretary of the Treasury, the following table has been issued: The rates here given are the ones which will govern the customs officers in estimating the values of all foreign merchandise during the coming year:

Country.	Monetary Unit.	Standard.	Value in U. S. Money.
Austria	Florin	Silver	$0.45.3
Belgium	Franc	Gold & sil.	.19.3
Bolivia	Dollar	Gold & sil.	.96.5
Brazil	Milreis of 1,000 reis	Gold	.54.5
British Possessions in N.A.	Dollar	Gold	1.00
Bogota	Peso	Gold	.96.5
Cent. America	Dollar	Silver	.91.8
Chili	Peso	Gold	.91.2
Denmark	Crown	Gold	.26.8
Ecuador	Dollar	Silver	.91.8
Egypt	Pound of 100 piasters	Gold	4.97.4
France	Franc	Gold & sil.	.19.3
Great Britain	Pound sterling	Gold	4.86.6½
Greece	Drachma	Gold & sil.	.19.3
German Emp.	Mark	Gold	.23.8
Japan	Yen	Gold	.99.7
India	Rupee of 16 annas	Silver	.43.6
Italy	Lira	Gold & sil.	.19.3
Liberia	Dollar	Gold	1.00
Mexico	Dollar	Silver	.99.8
Netherlands	Florin	Gold & sil.	.38.5
Norway	Crown	Gold	.26.8
Peru	Dollar	Silver	91.8
Portugal	Milreis of 1,000 reis	Gold	1.08
Russia	Rouble of 100 cop'ks.	Silver	.73.4
Sandwich Isl.	Dollar	Gold	1.08
Spain	Peseta of 100 c'nt'ms.	Gold & sil.	.19.3
Sweden	Crown	Gold	.26.8
Switzerland	Franc	Gold & sil.	.19.3
Tripoli	Mahbud of 20 piastrs.	Silver	.82.9
Tunis	Piaster of 16 caroubs.	Silver	.11.8
Turkey	Piaster	Gold	.04.3
U. S. of Colom.	Peso	Silver	.91.8

A Defence Association has been organized by the Irish pharmacists, and Mr. J. T. Holmes, of Dublin, has been chosen to be its secretary.

Therapeutics in Great Britain.—In reviewing a recently published treatise on the Theory and Practice of Medicine, Dr. W. Bathurst Woodman, of England, says: "As might be expected from Dr. ——'s antecedents, pathology and prophylaxis are most carefully rendered and form a distinguishing feature of the work. As in all modern works on physic, the treatment of disease receives less attention in this treatise than its diagnosis and *post-mortem* phenomena. We think this is to be regretted on more grounds than one. The neglect of treatment on the part of orthodox practitioners is the stronghold of quackery. The self-dubbed Dr. Smellfungus, graduate of a college *in nubibus*, sees a patient, relieves his pains, gives him tranquil nights, and at least a few days of enjoyable life, whilst the graduate in honors of the old and celebrated universities, who is perhaps, in addition, Member or Fellow of the Royal College of Physicians or Surgeons, sends the patient away, or leaves him, after making an elaborate diagnosis, with some peppermint water, or some other equally futile prescription, which affords no relief either to his body or to his mind.

"Dr. ——'s book is no worse than others in this matter. It is perhaps rather better. But unless something be done to advance the study of rational therapeutics, quackery must and will flourish on our island."

Drugs Rejected at the Port of New York.—We have received from the Appraiser's office the following account of drugs rejected at this port during the year 1876, and the reasons therefor:

1 Case Peruvian Bark. Not of requisite strength and purity.

2 Bales Peruvian Bark. Not of requisite strength and purity.

6 Bales Taraxacum root. Damaged, not fit for medicinal use.

2 Bales Aconite root. Damaged, not fit for medicinal use.

2 Bales Senna leaves. Damaged, not fit for medicinal use.

4 Bales Colchicum seed. Damaged, not fit for medicinal use.

62 Boxes Gum Guaiacum. Not of requisite strength and purity.

14 Cases Gum Guaiacum. Not of requisite strength and purity.

1 Barrel Gum Guaiacum. Not of requisite strength and purity.

12 Half-barrels Gum Guaiacum. Not of requisite strength and purity.

2 Casks Althæa root. Damaged, not fit for medicinal use.

16 Cases Guarana. Damaged, not fit for medicinal use.

3 Cases Rhubarb. Damaged, not fit for medicinal use.

1 Keg Ipecac root. Spurious.

Quantities and Values of some Domestic Products Exported from the United States in 1876:

	Quantities.	*Values in Dollars.*
Candles, all kinds, etc. lbs.	756,986	117,841
Drugs, Chemicals, etc	....	2,263,389
Ginseng, lbs.	87,006	119,745
Hops, lbs.	8,114,778	1,119,128
Oil Cake, tons	88,556	3,759,096
Petroleum, crude, galls.	15,967,289	1,191,639
Naphtha, galls.	9,448,476	1,086,718
Petroleum, refined, illuminating, galls.	118,226,935	24,172,936
Heavy lubricating oils, galls.	563,834	185,617
Sperm oil, galls.	704,230	1,011,015
Other fixed oils (whale, lard, etc.,) galls.	1,027,648	512,088
Volatile or essential oils	....	326,006
Paints and colors	....	150,000
Perfumery	....	243,205
Quicksilver, lbs.	82,279	55,386
Soap, all kinds, lbs.	7,501,921	488,736
Spirits of Turpentine, galls.	714,063	266,801
Spirits from grain, etc., galls.	131,144	79,014
Starch, lbs.	6,925,827	353,213
Tobacco leaf, lbs.	155,091,817	16,584,635
Tobacco manufactured	....	2,595,135
Varnish, galls.	22,761	34,062

Medical and Pharmaceutical Statistics of Prussia.—The kingdom of Prussia, which contains, according to the last census, 24,693,112 inhabitants, has 7,952 physicians, inclusive of 791 belonging to the army, and 146 employed in hospitals. There are besides, 284 dentists; 2,305 male nurses; 426 female lay-nurses; 1,063 diakonissen (deaconnesses); 3,409 sisters of charity and of other orders; and 16,951 examined midwives.

The number of drug-stores is 2,357, including branch-stores. In the case of 874 of these, the right of the exercise of the profession is primarily attached to real estate, and in the case of 1,379 it is inherent in the person of the proprietor. 18 drug-stores are the property of the State or of corporations. 853 stores (36%) are carried on without clerks or apprentices; 821 with only one clerk or apprentice; 432 stores employ each two clerks; 108 three; 104 four; and only 30 stores employ each five or more assistants. The whole number of persons connected with pharmacy is 5,081, of which 2,372 are proprietors, lessees, or managers; 982 examined assistants; 899 unexamined assistants; and 828 a apprentices.

NEW REMEDIES.

AN ILLUSTRATED MONTHLY TRADE JOURNAL OF
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VOL. VI., NO. 3, WHOLE NO. 33.

FRED'K A. CASTLE, M.D., - - EDITOR.
CHARLES RICE, - - ASSOCIATE EDITOR.

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¼ " or ½ "	12 00	30 00	50 00	90 00
¼ Column..................	8 00	20 00	30 00	50 00
⅛ "	5 00	12 00	20 00	30 00
1/16 "	3 60	8 00	12 00	20 00

No advertisement taken for less than 1/16 column.

PUBLISHERS' NOTICES.

THE edition of NEW REMEDIES this month is 7,000 copies.

80,000 copies of NEW REMEDIES were printed and issued during 1876.

ANY subscriber who may receive an extra number of NEW REMEDIES will confer a favor by handing it, with such recommendation as the Journal deserves, to some other person who might be interested in it. We want all the friendly aid we can get to increase our list of subscribers.

To our Subscribers.—NEW REMEDIES since January, 1876, has, we think, foreshadowed somewhat the character of Trade Journal its editors and publishers aim to supply the Druggists and Apothecaries of America.

No consideration of cost has at any time prevented the carrying out of every detail which appeared likely to prove valuable either as a matter of interest, of information, of scientific worth, or of practical use. New features have been added in almost every number, and continued efforts will be exerted to make it more and more indispensable to every manufacturer, dealer in and dispenser of drugs, chemicals, paints, oils, etc.

Only the most extensive circulation, a far larger list of subscribers than has ever been owned by any Drug journal in the past, will reimburse the very heavy expenses incident to its publication.

Although NEW REMEDIES has now nearly *three times* the number of subscribers it had one year ago, we hope to double even this unprecedented success before 1878.

We want our subscribers to help us. If you know some friend who *should* take NEW REMEDIES, write him about it, and send us his address. We will mail him a specimen number.

EDITORIAL.

ON the 27th of February the druggists of Brooklyn held a meeting for the purpose of organizing an association, and on another page will be found the officers elect, and ethical code adopted by them. At that time and at subsequent meetings the effort was made to bring about a union with the College of Pharmacy of the City of New York, a bill to this end having been submitted during the present session of the State Legislature, but at last accounts the opponents of the plan for regulating the practice of pharmacy by law have carried the day by a large majority. We are sorry to note that their victory was marred by the conduct of some of their partisans.

DR. JENKS, of Detroit, was recently sent for by a respectable medical practitioner, living in Goderich, Canada, at the request of the friends of a patient. It was, on consultation, decided that an operation should be made, and a day was fixed for its performance. As a license to practice is required in Canada, and news of Dr. Jenks' proposed operation having meanwhile come to the ears of a medical member of the Medical Council, living in Toronto, the latter sent a detective to meet Dr. Jenks on his way to keep his appointment, and inform him that he would be arrested for violation of the law if he took part in the operation. It is hardly necessary to add that Dr. Jenks returned to his home without keeping his engagement. When we consider that Dr. Jenks is President and Professor of Obstetrics in the Detroit Medical College, and was quite lately appointed by the American Medical Association to be one of the delegates to the Canadian Medical Association, we are led to infer from such action that the Ontario Medical Act is not so much intended to prevent unqualified persons from practising as it is to foster trade-unionism. It is but just to say, however, that the Canadian journals denounce the action of the member of the Council in the most unqualified terms.

THE following editorial and extracts, which we find in the *Louisville Medical News*, appear to us to be so seasonable that we copy them entire:

"Prof. Maisch, Permanent Secretary of the American Pharmaceutical Association, contributes to Vol. II. of Public Health Papers, issued by the American Health Association, a valuable paper upon Pharmacy in its Sanitary Relations, from which we propose to make a few extracts. Regarding mistakes of druggists, he says:

"'The habitual exercise of ordinary care and circumspection will, at an early period of his professional and business career, be regarded by the pharmacist as his paramount duty; and if this be well understood, suitable precautions will be taken in all the varied duties pertaining to the laboratory or the office. Of the errors and mistakes occasionally occurring in pharmaceutical stores—more frequently, it is believed, in bygone days—a very small number only are directly and solely attributable to want of proper care. While it is true that culpable negligence exists in some stores, it will be found that mistakes occurring in consequence thereof, in nearly every instance might have been avoided, if the guilty party had possessed sufficient knowledge of the physical properties of the article, and been able to recognize and distinguish it from others of similar appearance.'

"Prof. Maisch says that for a long time this country was the favorite market for adulterated, impure, and worthless drugs. Matters in this respect have, however, greatly improved. Partly through the action of the national drug law, in force since 1848, which provides for examiners of drugs at the ports of entry; partly by local legislation, to prevent the adulteration of drugs after being admitted to the country; but mainly by 'the progress of popular intelligence in general and the increased facilities of pharmacists in particular, our market,' he says, 'now furnishes as good drugs as can be found elsewhere,' and they meet with ready sale.

"Concerning the fate of the second and third class drugs, he very pertinently remarks:

"'To the experienced, this question is not very difficult to answer, as far as our country is concerned; there are many ill-informed apothecaries in small and large places, and many medical practitioners in the country, furnishing medicine to their patients, who possess little or no knowledge of drugs, and who are willing to purchase, provided the article be a little cheaper than it can be obtained from another house. These are the main, or perhaps the only outlets for the cheap and inferior drugs.'

"Prof. Maisch then makes a bolder stroke at the question in dealing with evils protected by powerful interests. His remarks upon these are so important that we must quote here at greater length:

"'The cheapness of so-called officinal medicinal preparations is always an argument in their favor on the part of the same class who purchase crude drugs because they are cheap, and who are little influenced by the reflection that a galenical preparation cannot be sold at a less price than the cost of the articles which are pretended to enter into its composition. There are now perhaps several hundreds of so-called manufacturing pharmacists in the United States, some turning out unobjectionable products as far as quality is concerned, while the products of others are inferior and unreliable—all, however, having the tendency to encroach upon the legitimate vocation of the pharmacist and to aid in closing the laboratory of the latter. This state of things has not come suddenly upon us; *it has gradually grown from insignificant beginnings, and its existence is due in part to the ignorance or indolence of a certain class of pharmacists, and in part to the support received from many members of the medical profession.* It is not uncommon for physicians to prescribe A's extracts, B's fluid extracts, or C's pills, instead of insisting on getting these articles, if officinal, prepared so as to represent the intention of the pharmacopœia; and if favorable results have been obtained with such a preparation, a history of the case may sometimes be found in the medical journals, with the manufacturer's name attached in such a manner as to lead unthinking practitioners to infer that peculiar virtues are connected with a preparation because it had been made by or under the supervision of a certain man. Another circumstance has contributed to increase this evil. Though justifiable perhaps from a purely commercial standpoint, the publication, by manufacturing pharmacists, of so-called medical journals is detrimental not only to the progress of medicine and pharmacy, but likewise to the best interests of the public. Donning a professional garb, they are usually filled to a considerable extent with reports of cases benefited or cured by one or more of the special preparations of the manufacturer; and being obtainable for a mere nominal price, or even distributed gratuitously, such journals find their way to just such places where a demand for their owner's preparations can be created or increased. Suppose that this movement has been inaugurated with what may be regarded as perfectly legitimate preparations, it is soon followed by so-called *specialties* and *elegant pharmaceuticals*, which are imposed upon the physician and the public, and which, *though their composition is stated with an appearance of frankness, in too many cases scarcely differ from the vile nostrums which no true physician would prescribe and with which every upright pharmacist would refuse to have his name connected.* . . . In some cities, the prescribing of elixirs of different makers had become such a nuisance that pharmacists were compelled to keep in their stores half a dozen different preparations all bearing the same name, to gratify the whims or predilections of the prescribers.'

"Prof. Maisch then deals with the patent-medicine question. Of the vile compounds of this description, he says:

"'There is scarcely a nostrum which is not calculated to do infinite harm, be it in consequence of the powerful medicines contained in it, or because of its injudicious use by the public.'

"And while enumerating several plans which have been recommended for the abatement of the evil, he says:

"'It must also be borne in mind that in a country like ours there must naturally exist a necessity for domestic medicines, because outside of the cities and the more populated districts it is often impossible to secure the services of a physician except after hours of delay.'

"To meet this necessity he recommends a plan, suggested to him by Professor Procter many years ago, which he says has of late been agitated anew, and is thus put by the *Atlanta Journal:*

"'In the way of *remedy* for these acknowledged evils, we suggest that the medical profession recognize the want of household remedies by publishing *authoritative formulæ* for the use of pharmacists, who may compound them at their counters and keep them on hand for the ready and convenient supply of *all the real wants* of families and of individuals in this direction.'

"The remainder of his paper is devoted to a consideration of the schools of pharmacy, and the pharmacy laws enacted by several of the States.

"In a paper so well considered as the one presented by Prof. Maisch it is difficult to make an abstract which will preserve anything like its original force. We regret our inability to give it entire, and must content ourselves with the extracts above printed. These will show something beyond the statements they contain in reference to the state of pharmacy in this country. They will show that whatever this be—whether good or bad—the pharmacists have men among them perfectly competent to appreciate the one and to condemn the other, and into their hands may safely be committed matters pertaining to their own reform.

"This is a statement which may surprise that portion of the medical press which has considered it a sort of religious duty to look after our brethren of the spatula in a severe and fatherly way. The fact is, criticism of pharmacists comes with rather bad grace from doctors in America in this year of light, 1877—such criticism at least which would institute a comparison between the two callings for the purpose of showing our great superiority. Does any one pretend to say that education is the distinguishing mark of the doctors? In the face of the nine-months' graduates this ought to make the school-men smile. Is theirs a trade and ours a profession? Who are greater hucksters than the men who advertise the sale of beneficiary scholarships and run the diploma mills? Do they depend more upon the profession of medicine than this depends upon them? If the little doctor helps the neighboring little pharmacist by sending him regularly his prescriptions to fill, doesn't the little pharmacist send him in return people to be filled with prescriptions, that he may receive the same, perhaps, to fill? Nay, this is the smallest link which exists between the two parties, forged in ideas of petty gains. Between the better men of both sides there is mutual confidence, mutual respect, which repels the idea of odious comparison. We shall always be for our guild; and being for it, seeing the intelligence, the industry, the education, the liberality, the desire for continued reform shown by American pharmacy, we shall rejoice in the assistance it gives us, and shall cultivate its friendship rather than, by giving it advice upon subjects it knows far more about than we, excite its enmity and laughter.

"The great problem before the American profession is how to set its own house in order. Let us not be distracted by outside issues."

MATERIA MEDICA.

Ava or Kava-Kava.

In the October number of our last volume we brought an article on the properties and uses of this plant; since then renewed attention has been drawn to it, and it has been experimented with by several American practitioners who obtained it by way of San Francisco, and whose reports would seem to confirm its efficiency in curing gonorrhœa We therefore follow the example of the *Pharm. Journ. and Trans.* in illustrating the essential parts of the plant. The medicinal properties were first pointed out by Gobley in 1857, who also analyzed it and found it to contain: water 15, cellulose 26, starch 49, methysticin 1, acrid and aromatic resin 2, extractive matter and gum 3. potassium chloride 1, magnesia, silica, etc., 3 parts in 100.

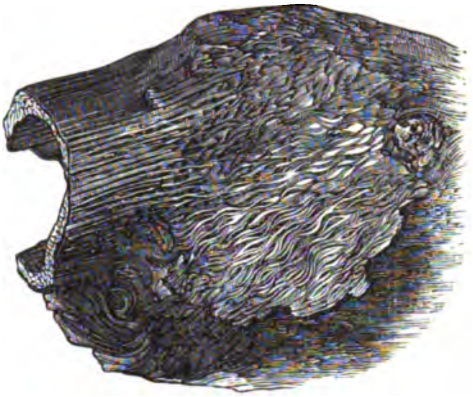

FIG. 1. Superficial Section of Root.

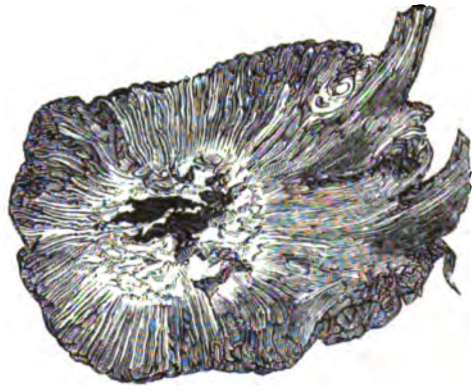

FIG. 2. Transverse Section of Root.

The botanical name of the plant is *Piper methysticum* Miq., and its home are the islands of the Pacific Ocean. It grows to the height of about 6 feet, with stems varying from 1 to 1½ inches in thickness. The leaves vary from 4 to 8 inches in length, and are nearly as broad as they are long. In shape they are cordate, tapering above somewhat suddenly into a very short, acute apex. The leaves are stalked, the petiole being usually from 1 to 1½ inch long, and dilated towards its base. To the eye the leaves appear smooth, but with a lens they are seen to have the veins covered with minute hairs; while the rest of the leaf has short hairs thinly scattered over it. The principal veins of the leaf, of which there are usually 10 to 12, radiate from the top of the petiole, the three central veins being very close together for about half an inch upwards from the base of the leaf.

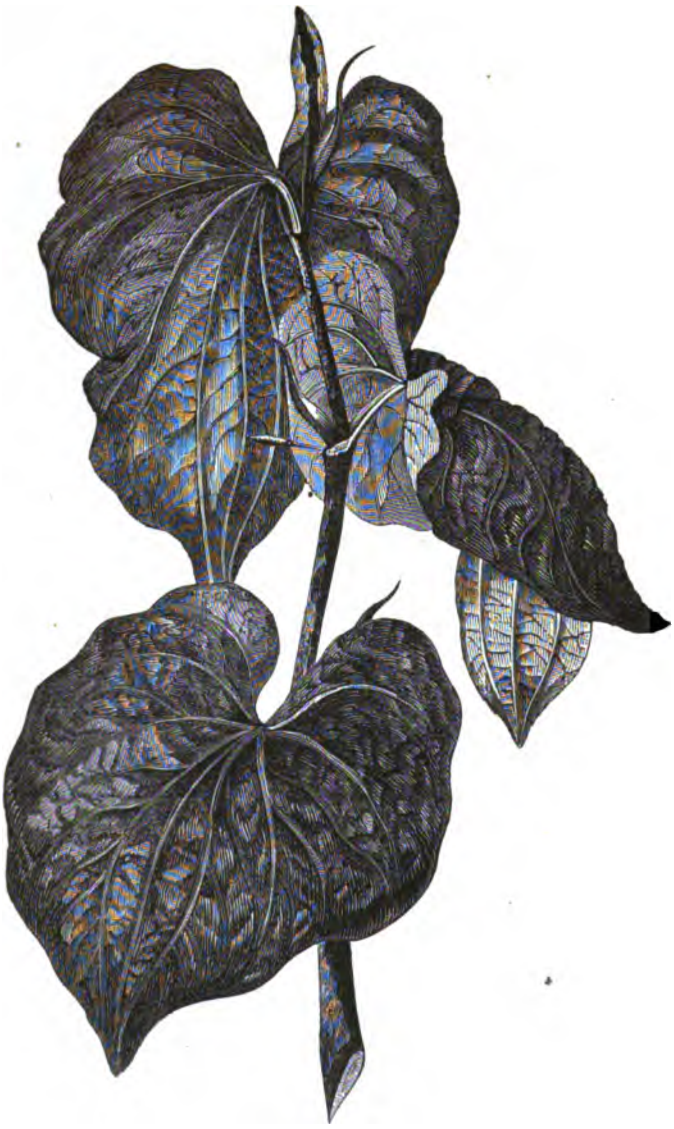

Fig. 3.—Ava, or Kava-Kava.

The root is large and fibrous, but rather light and spongy in texture. When fresh it usually weighs from 2 to 4 lbs., although it sometimes exceeds 20 lbs. in weight. In drying, rather more than half the weight is lost. Externally, the root is of a grayish-brown color, and has a very thin bark which, when sliced off, uncovers a complete network of woody tissue (Fig. 1), some of the interstices of which are filled with soft yellowish white cellular matter, whilst others are quite empty. Internally, the root is of a yellowish white color. In a variety of the plant known as "Marea" the inner portion is citron-yellow, and in another called "Avini Ute" it is of a pinkish hue. A transverse section (Fig. 2) shows a number of narrow lines (woody bundles) radiating from near the centre to the circumference, the portions of the soft cellular tissue by which the lines are separated from each other being much wider than the lines themselves. The central portion of the root is soft and cellular, with a few woody bundles anastomosing with each other and proceeding at right angles to the radiating bundles, so that they form a network in the centre of the transverse section. The root has a pleasant odor, recalling that of the lilac (*Syringa vulgaris*, L.), or the meadow-sweet (*Spiræa ulmaria*, L). It has a slightly pungent taste, and causes an increase in the flow of saliva, with a slightly astringent sensation in the mouth, and a scarcely perceptible bitterness.

The root and extreme base of the stem are the parts generally employed; those which grow on a dry soil being, it is said, most active. Four or five grammes of the scraped root are macerated in a quart of water for about five minutes. This solution, filtered, and given twice during the day, renders micturition easier, the urine becomes limpid, and cure follows in from ten to twelve days. Unlike nearly all other blennorrhagic remedies, Kava-Kava has no unpleasant taste. Its bitterness improves the appetite, and does not produce nausea.

The root contains, according to M. Cuzent, an essential oil of a pale yellow color, 2 per cent. of an acrid resin, and about 1 per cent. of a neutral crystalline principle called Kavahin or Methysticin, which is obtained in acicular crystals from a concentrated tincture. Kavahin differs from piperine and cubebin in being colored red by hydrochloric acid, the red color changing on exposure to air into a bright yellow; and in being colored by sulphuric acid purplish violet, which passes into green. The root contains also nearly half its weight of starch. In addition to its effects on the urinary organs, it is also said to be one of the most powerful sudorific agents known.

The Quinine Flower.

J. Dabney Palmer, M.D., of Florida, sends to the *Journal of Pharmacy* the following description of the quinine flower. He describes it as an annual, from twelve to eighteen inches high; having an erect, green stem, linear leaves of about one-half to one inch in length; and small white flowers. The root consists of numerous slender fibres.

"It is a native of Florida, and is found most abundantly in flat pine woods, in a moderately dry soil, making its appearance in March or April, and flowering from July to September. The specimens furnished me were gathered three or four miles south of Monticello, in Jefferson county. In the lower portions of the county it is very abundant, and is successfully employed by those living in its vicinity for the cure of different types of malarious fever—the whole plant being used, either in the form of decoction or extract, and given *ad libitum*, or until the patient feels the effects of quinine in his head. It is a curious fact that persons brought under the influence of this remedy experience similar sensations—such as tension or fullness in the head, ringing in the ears or partial deafness—as when under the influence of quinia, and hence its name. Its reputation as an anti-periodic was established during the late civil war, when, owing to the scarcity of quinia, every opportunity was offered for testing the relative value of various substitutes.

"The quinine flower is intensely and permanently bitter, yielding its properties to water and alcohol. A saturated tincture, in doses of one teaspoonful every two hours, was found sufficient to break the paroxysm of intermittent fever. Larger quantities, however, may be given in obstinate cases, or in the remittent form of the disease."

Some of the flowering plants having subsequently been sent to Professor Maisch, the latter reported on the specimens as follows:

"The plant was found to belong to the natural order of Gentianaceæ and to the sub-order Gentianeæ, having the corolla lobes twisted (contorted) in the bud; the distinct style being deciduous, it must be placed into the section to which Erythræa and Sabbatia belong. Its botanical characters agree with those of the last-named genus, and more particularly with the group which has the white or purplish flowers scattered on alternate peduncles, and the corolla five-parted. On comparing it with the American species in the College herbarium of Dan. B. Smith, it was found to correspond with a specimen of *Sabbatia Elliottii*, Steud., which is marked *ex herbar. Chapmani.* This plant is described in "Chapman's Flora of the Southern United States" as follows:

'Stem low, terete, paniculately much branched from near the base, the branches diffuse; leaves small, sessile—the lowest obovate, the upper linear; lobes of the corolla 3 to 4 times as long as the short filiform calyx lobes. (S. paniculata, *Ell.*) Open pine barrens, Florida to South Carolina. Aug. and Sept. Stems ½ to 1½ feet high. Leaves 3 to 6 inches long. Corolla 8 to 10 lines wide.'

In both the herbarium specimen and the plants sent by Dr. Palmer, the calyx lobes are more prominent than might be supposed from the description given; but they are evidently described as *short* in comparison with the much longer calyx lobes of Sabbatia stellaris, gracilis, and allied species, in which they are about equal in length to the corolla, while in the species under consideration they are about one-third the length. The lowest leaves are obovate, those a little higher on the stem oblanceolate, with an acute point, and become rapidly narrowed to a linear shape. The stems of the plants recently received are from twenty to twenty-four inches high, and consequently rather exceed the height as given by Chapman.

"The herb has at first an herbaceous taste, which gradually develops into a pure and persistent bitter, free from astringency.

"The popular name *quinine flower* appears to be confined to a small locality, probably to only a portion of Florida; at least, I have not been able to find it in any of the floras or popular botanical works of the United States. Porcher's "Resources of the Southern Fields and Forests," p. 556, however, mentions Gentiana quinqueflora under the names of *Indian quinine* and *ague weed*, and states that 'this and the G. Saponaria are esteemed fully equal to the imported gentian; in large doses they are said to be laxative. Dr. E. P. Wood, of Wisconsin, has given this plant with success in intermittent fever.' He also gives a detailed account of the medicinal properties of Sabbatia angularis, the American centaury, and states that Sab. stellaris and Sab. gracilis possess properties similar to the former.

"This genus of North American plants is closely allied to Erythræa, of which several species (E. Chilensis, Centaurium, linarifolia, etc.) are still employed in different countries as tonics, and sometimes as anti-periodics; but we do not remember that effects resembling quininism have been ascribed to any of those plants, such as Dr. Palmer states are experienced from the quinine flower of Florida."

On Indian Hemp and its Active Principle.

The home of hemp is Persia and the high plateau of Northern India, whence it has gradually spread to other countries, so as to be domesticated at present everywhere. Its narcotic properties, however, are only developed fully in its native home in Asia, and in certain parts of Africa, where it is used as a narcotic stimulant and intoxicant by nearly 300,000,000 of inhabitants.

A preparation, called Madjoun is sold in Algiers, which is powdered Cannabis sativa boiled with honey for a longer or shorter time, according to the desired consistence. Usually it is kept mixed with a certain portion of *Ras-el-hanout*, a spice-compound, containing nutmeg, cinnamon, cloves, various peppers, ginger, galangal and Guinea grains. This mixture is also called *Kif.* The dose varies from the size of a hazel—to that of a walnut, according to the age, sex, and tolerance of the person using it. Most eaters of hashish also smoke the dried leaves of the plant, either alone or mixed with the so-called "tobacco of the desert," which, according to Dr. Guyon, is a species of Hyoscyamus.

Dr. Preobraschensky, who accompanied the expedition to Chiwa in 1873, furnishes the following information on the Hashish of Central Asia. "This article occurs in the bazaars of large cities of Middle Asia in the form of plates, or cakes of various shapes, mostly five to fifteen inches long, five to ten inches broad, and one to three inches thick; externally they are dark brown, internally greenish or brownish, of firm consistence, very tough, and almost incapable of being broken, but easily cut into fine shavings. They are prepared as follows: The resinous juice from the fresh unripe flower-tops is collected during spring, mixed with sand and water to a doughy mass, which is spread upon a surface of clay and dried until it can be cut with a knife into plates. In a few days more the excess of water has evaporated, and the substance is ready for use. It is called Hashish by the Russians, Nascha by the natives, Bang and Gunjah by the Persians, and is exported from Bochara to Chiwa, Tashkend, Kokant (Chokand) and other places.

The active principle of hashish has been supposed to be resin. Dr. Preobraschensky has, however, lately subjected hashish to a chemical analysis, and has found an alkaloidal body—not only in the commercial substance, but also in the flower-tops of hemp itself, and the pure extract prepared from it—which was recognized as *nicotia.* 150 gm. of the herb, distilled with water, furnished 25.4 mgm. of nicotia; 50 gm. of the herb, distilled with caustic lime and potassa, yielded 335.28 mgm.; 5 gm. of the extract of Cannabis Indica, dissolved in alcohol and distilled, yielded a distillate containing 91.14 mgm. of nicotia, and 2 gm. of the extract, distilled with caustic lime and potassa, furnished 63.5 mgm. of the same alkaloid.—*Pharm. Zeit. f. Russl.*, 1876, 705.

Cyclamin or Arthanatin.

Prof. De Luca, of Naples, has ascertained that cyclamin may be used as a substitute for curare, and recommends it as a remedy against tetanus. *Cyclamen Europæum* L., "sowbread" or "hogs' bread," nat. fam. Primulaceæ, is a native of southern, eastern, and central Europe, and contains a poisonous glucoside in the fresh tubers. Drying, boiling or roasting the latter entirely destroys the substance. These tubers are used in Sicily, after proper treatment, as food for hogs, and are even eaten, roasted, by the common people in some parts of Russia. When eaten in the fresh state, the roots produce vomiting and diarrhœa, often with inflammation of the intestinal canal and sometimes with fatal effects. They were used already by the ancients, and Dioscorides as well as Pliny recommend them as remedies against jaundice, constipation, cutaneous eruptions, enlargement of spleen, freckles and lymphatic swellings; besides, in form of decoction, against the bite of poisonous serpents and as an external application to wounds. While the juice of the fresh tubers, when absorbed by the blood from wounds, is apt to have fatal effects, the application of a decoction, in which the poisonous substance must have been destroyed, to wounds is unobjectionable. Radix Cyclaminis or R. Arthanitæ was yet officinal about one hundred years ago in Germany.

Saladin, Buchner, Herberger, De Luca, and Martius have prepared cyclamin and studied its effects. The two last-named investigators prepared it from air-dry, Saladin from fresh tubers. These are gathered in autumn, pounded to a pulp, extracted with a small quantity of water, the extract is evaporated at a temperature not exceeding 60° C., the syrupy residue exhausted with absolute alcohol, the alcoholic solution treated with animal charcoal and then allowed to evaporate spontaneously in a warm place.

According to Saladin, cyclamin forms small white crystals; according to Martius and De Luca, however, a white amorphous mass, possessing no odor, but a very acrid taste. It belongs to the chemically indifferent or neutral principles and has the composition: $C_{20}H_{34}O_{10}$. It is easily soluble in alcohol and water, insoluble in ether, chloroform and carbon disulphide. The aqueous solution, according to De Luca, foams like soapsuds, and when heated to between 60° and 70° C. separates the cyclamin in a coagulated form. Concentrated sulphuric acid dissolves it with a yellow color gradually passing into violet. By boiling with dilute mineral acids it is separated into glucose and cyclamiretin, which latter is insoluble in ether and water, but soluble in alcohol. Emulsin produces the same decomposition at 30–35° C.

Pelikan's experiments with this substance upon frogs show that it belongs to the irritant poisons. Schroff administered it in quantities of 0.2 gm. (3 grs.), and the toxic effects disappeared after the lapse of about one hour.—*Pharm. Centralh.*, 1877, 17.

Blue-Glass Science.

There is nothing more reassuring in these days, when new "isms" of the scientists are slowly sapping the foundations of cherished belief, than to remember that, after all, the much-vaunted dicta of Nature are yet opposable by the sound operations of honest common sense. See, for example, how one of our evening dailies, tossing the dogmas of so-called science contemptuously aside, evolves such profoundly original thoughts as these, to explain the lucid blue glass theory of General Pleasanton: "The blue glass presents an obstruction to the sun's rays which can only be penetrated by one of the seven primary rays—the blue ray; the remaining six rays, travelling with a velocity of 186,000 miles a second, falling upon the blue glass, are suddenly arrested; the impact evolves upon the surface of the glass friction, heat, electricity, magnetism; the heat expands the molecules of the glass, and a current of electricity and magnetism passes through it into the room; this current, falling upon animal or vegetable life within, stimulates it to unusual vigor. Certainly the results achieved, and abundantly certified to, are marvellous, and sufficient to provoke further experiments and inquiry." "Prior to these splendid original discoveries of our cotemporary," says the *Scientific American*, "we ignorantly believed that blue glass only partly sifted out the orange and yellow rays from the spectrum, and that, with this exception, it acted merely as a screen to diminish the intensity of all the rays. We also supposed that there was a sharp distinction to be drawn between sunlight after passing through blue glass, and the blue spectral ray; that in one case all the colored rays were more or less present, and that in the other but one was. But think of the utter dismay of such pretenders as Helmholtz, Tyndall, and Henry, when they learn that the undulatory theory of light with which they have so long taxed our credulity is overthrown—that of the seven principal rays, six bounce off from blue glass and distribute themselves over the adjoining neighborhood. That the glass is heated by the impact, and as the sun persistently emits more rays, there are more impacts and more heat. The glass gets hotter and hotter; but—mark the scientific acumen here—just as we are wondering whether it will reach the melting point, the pores open. It is the Turkish bath of Nature. Electricity and magnetism, no longer shut out, rush in between the separate molecules. Hand in hand, these great curative powers seek a proper subject. They meet (we learn from a report, also in our contemporary, of Pleasanton's triumph) a pig, or a young lady whose hair has come out, a heifer, a rooster, or a rheumatic child. Forthwith the pig fattens, hair equal to that produced by the finest *tricopherous* pervades the female scalp, and unusual vigor and general happiness prevail. Such is the boon which Pleasanton bestows on humanity, as elucidated by the original genius of our contemporary."—*Scientific Amer.*

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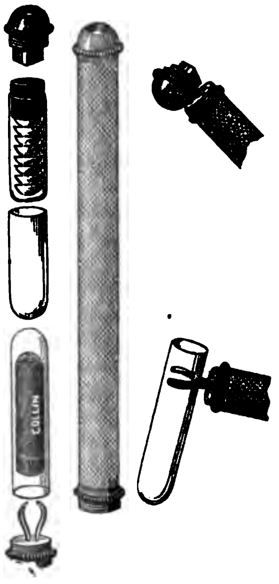
Artificial Beeswax.—A mixture of paraffin and common resin has found its way into our market as a substitute for beeswax. It resembles the genuine article very closely in color, fracture, and adhesiveness. The cakes are generally covered with a thin coat of genuine wax.

A New Asbestos Mine has been discovered at the San Jacinto Mountain, in California. It is situated on a table-land overlooking the desert; the ledge is thirty feet wide on an average, and over a mile in length. The supply is very abundant and of variable quality, some portions being very white, compact and heavy, while at other points it is bluish, hard, and stone-like.

PHARMACY.

A Pocket-Case Uroscope.

MR. YVON describes in the *Répertoire de Pharmacie* (1877, 8) a new apparatus for the examination of urine, which does not take up more room than an ordinary caustic-holder, and may be carried about in the pocket-case. The annexed cut explains the arrangement. A metallic tube is divided into two compartments and closed at each end by a screw-stopper. The smaller compartment contains a test-tube for heating urine; within this tube is a small gutta-percha case or tube filled with blue or red litmus paper. The stopper fitted to this compartment has an outer and an inner thread, and bears a clamp in its centre, which is pointed inside when the instrument is closed, but is reversed when using it, to form a test-tube holder. The second compartment contains a spare test-tube, and another tube closed with a rubber stopper, and containing pieces of caustic potassa. The metallic stopper of this second compartment contains a small microscope of sufficient power to examine urinary deposits. This instrument is intended to be inserted into the clamp of the other stopper when using it. The practitioner will be enabled by means of this convenient arrangement to examine the alkalinity or acidity of the urine, to search for albumen, or for sugar (by means of the potassa), and to examine the urinary deposits.



Preparation of Gold-Sponge.

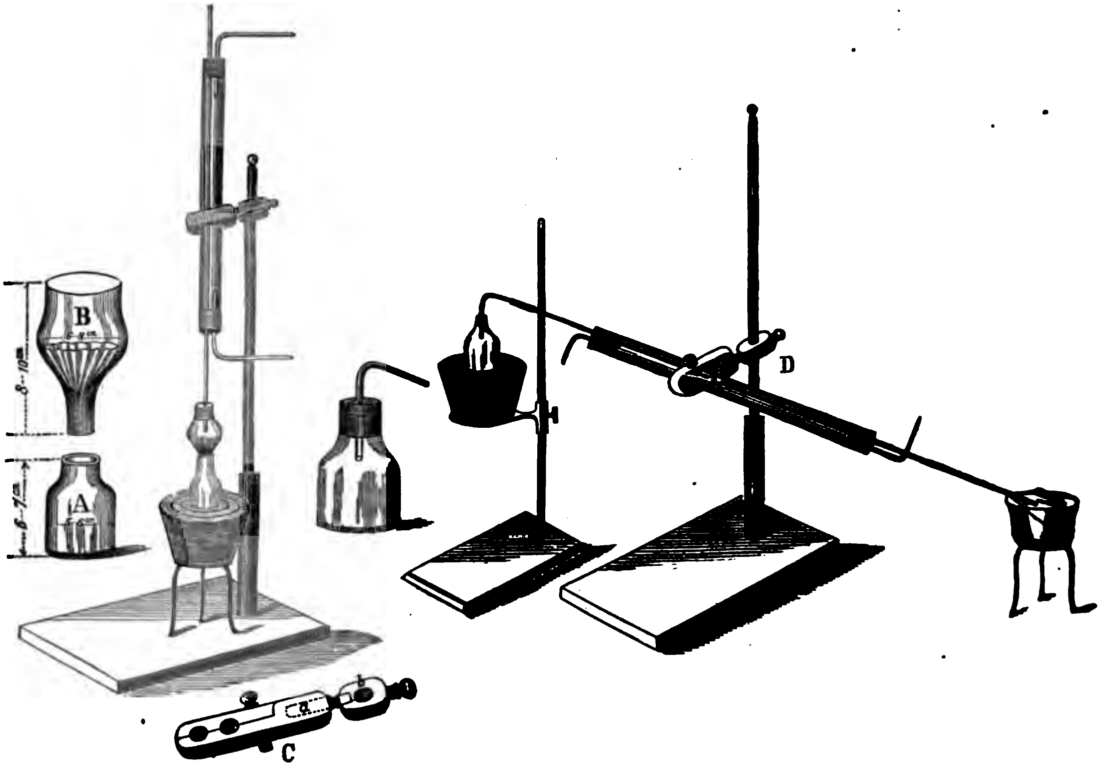
GOLD-SPONGE, which is used by dentists for filling teeth, may be obtained according to C. F. Jackson, by the following method: A solution of gold in aqua regia, which may contain copper, is carefully evaporated until all excess of nitric acid has been removed. Oxalic acid is now added, and afterwards as much potassium carbonate as is required to dissolve nearly the whole of the gold to potassium aurate. More oxalic acid is now added, so as to be in considerable excess, and the whole is rapidly heated to boiling. The gold then separates as a fine yellow spongy mass, while any copper, which may be present, remains in solution. The sponge is removed, washed with hot water until every trace of acid is removed, and dried.—*Industrie-Bl.*, 1876, p. 401.

Apparatus for Milk-Analysis.

Mr. N. Gerber has constructed an apparatus which he considers superior to any other for the determination of fat in milk, and the construction of which will be understood by examining the annexed cut. Although his process does not differ very materially from those usually followed, we shall nevertheless give an abstract of it, as it is quite easy of execution, and less complicated than some others which have recently been recommended.

10 to 20 centigrammes or grammes of milk are diluted with 20 or 30 volumes of distilled water in a large beaker. Very dilute acetic acid is added in drops, under constant stirring, until the milk begins to form small flakes. The beaker is now set into water of 75° C., and allowed to remain therein until the casein has separated in large masses, when it is filtered through a filter, previously dried and tared at 110° C. The serum is not only (as usual) boiled, but, in order to completely separate the albuminates, it is evaporated to one-fourth of its bulk. Any albuminates thus separated are added to the casein upon the filter, and the whole of it is washed with cold distilled water until the washings cease to be acid. The liquid portion is used to determine the sugar. The author prefers to determine casein and albumen together as "milk-albuminates," instead of estimating them separately.

These albuminates, together with the filter, are now transferred to the funnel-shaped vessel *B*, which is placed upon the flask *A*, previously weighed air-dry. The coagulum is first washed with a small quantity of alcohol, part of which runs into *A*, and to which about three-fourths of its volume of ether is added. The apparatus is then placed upon the water-bath and connected with the upright (reflux) condenser. The ether must be made to boil only very gently, lest it might rise into the funnel in too large a quantity and carry back with it some coagulum. The vapors of the ether are condensed in the upright condenser and fall back upon the coagulum, producing thereby an uninterrupted exhaustion. After some time a drop of the ether passing from the funnel *B* is allowed to evaporate upon blotting paper, when a total disappearance of the stain indicates that all the fat has been extracted. The same condenser is now turned about its supporting pivot *D*, so as to lie in an inclined position, *A* is connected with it, and the ether and alcohol contained in it are recovered by distillation. The residue in the flask, dried at 105°–110° C., represents the fat; the remainder of the coagulum, dried at the same temperature, the casein and albumen.—*Ber. d. Deutsch. Chem. Ges.* 1876, 659.



Fluorescein as a Test for Acids and Alkalies.

In a manufactory of aniline colors at Frankfort, fluorescein has been used for a considerable period in place of litmus as a test, and is found to possess advantages superior to those of carminic and rosolic acids, and eosin, which have also been used for this purpose. The beautiful fluorescence of its solutions disappears suddenly in the presence of the least trace of free acid, and is at once brought back by free alkali. These transitions are so sharp and characteristic that no doubt can exist as to the character of a liquid. Further, carbonic acid, which retards the transition with litmus, has no influence with fluorescein. The new substance is to be especially recommended in colored solutions, where the coloring is not too strong; the disappearance and return of the fluorescence is almost more manifest here than in colorless solutions. On the other hand fluorescence is inapplicable in the presence of free acetic acid, which dissolves it also with fluorescence. It is also not advisable to use it where fine white precipitates are suspended in colorless solutions (*e.g.*, in sulphuric acid with baryta), as these mask the fluorescence. The precipitates must be allowed to settle before the indicator can be used to reveal the reaction.—*Polytech. Rev.* from the *Eng. Mech.*

Notes on Perfumery.*

The art of compounding perfumes is an ancient one. It was practiced by the early Egyptians and other Oriental nations, and with them perfumes were in frequent use. In Holy Writ Moses speaks of being directed to take sweet spices, stacte, onycha, galbanum, with frankincense, and confection them into a pure and holy perfume after the manner of the apothecary, to be offered up to the Lord; and in Proverbs we read of epicures indulging in the luxurious use of costly perfumes. The Greeks and Romans used perfumes freely, as well on their persons as at their feasts; they were also used with flowers at sacrifices, to regale the gods. These fragrant compounds were in demand for theatres and other places where crowded audiences assembled, where their use subdued the offensiveness of a vitiated atmosphere. Different nations preferred different odors; with one the violet was the most popular, while others gave preference to the rose.

From the frequent mention of perfumes in the form of ointment, it would appear that the solvent powers of fatty matters over the odorous principles of flowers was among the earliest discoveries in this department. Subsequently fragrant waters were in great demand, and costly as these articles of luxury then were, they were nevertheless largely consumed. Grave men at times protested against the prevailing extravagance, and philosophers declared their aversion to perfumes. "There is the same smell," said Socrates, "in a gentleman and a slave, when both are perfumed;" hence, in his opinion, the only odors desirable were those arising from honorable toils and "the smell of gentility;" but in spite of protests the wealthy perversely and persistently followed their own tastes, anointed their own bodies, pomaded their hair, and bathed their limbs in fragrant waters, as though the thoughtful ones had never spoken.

In later times, with the advance of civilization, the use of perfumes gradually extended to other nations, culminating in their general use throughout the civilized world. In some countries there was, for a time, stout opposition to the introduction of all such preparations. In England it was thought to be a fit subject for legislative control. In 1770 an act was introduced into the English Parliament as follows: "That all women, of whatever age, rank, profession, or degree, whether virgins, maids, or widows, that shall, from and after such Act, impose upon, seduce, and betray into matrimony any of His Majesty's subjects by the use of scents, paints, cosmetic washes, artificial teeth, false hair, iron stays, hoops, high-heeled shoes, bolstered hips, shall incur the penalty of the law now in force against witchcraft and like misdemeanors, and that the marriage, upon conviction, shall stand null and void."

In large cities the manufacture and sale of perfumery is sometimes carried on as a separate occupation, yet, as a rule, this department of business, as in ancient days, is still associated with the trade and mysteries of the apothecary. Some may perhaps have but little sympathy with the manufacturer of perfumery, and may think that it were better handed over to the hairdresser or dealer in notions, and that the apothecary should devote his time exclusively to the more important duties of dealing out medicines, pure and simple, to meet the requirements of physicians and the wants of suffering humanity. This latter is doubtless the most legitimate and beneficent exercise of the apothecaries' skill, and ought always to be regarded as of primary importance; yet he will often have spare hours when he can enjoy the pleasures connected with the compounding and blending of odors, and at the same time develop a profitable and time-honored branch of his business.

The cultivation of the olfactories is an advantage to the pharmacist. The nose is an organ whose importance he cannot ignore in his business, and it is doubtful if better training can be found for it than in the compounding of perfumes. We all think it a gain to have a fine ear for music; why should we think less of an exquisite nose for odors? Surely this prominent member is as capable of cultivation as is the ear, not that an unusual development is desirable in either case, but rather the making the very best use of the organs with which we have been supplied. There are harmonies and discords in perfumes as in music; Piesse has reduced them to a scale which he calls the gamut of odors. "If," says he, "a perfumer desires to make a bouquet from primitive odors, he must take such odors as chord together; the perfume will then be harmonious."

For some time past the tendency has been to turn over the manufacture of perfumes too much to the specialist. This has probably resulted mainly from two causes,—first, the difficulty of procuring the materials used in the making of perfumes in a state of purity, and in the second place, for want of plain and practical information on the subject. The first obstacle is less felt now than formerly, and to aid in the removal of the second is the main object of the present paper. My purpose is to place within the reach of every one of our members such information as will enable him with a little attention to equal the finest productions of a Lubin, an Atkinson, or a Rimmel.

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* A paper read at the meeting of the American Pharmaceutical Association in 1876, by William Saunders, of London, Ontario.

I have now before me samples of twenty different extracts, any of which will, I think, compare favorably with the best of those imported. I shall first briefly refer to the ingredients which enter into their composition, and afterwards give the formulæ for their production.

Alcohol.—One of the first requisites in the manufacture of good perfumes is pure alcohol, free from fusel oil or other foreign flavor. This purer grade of spirit is known in commerce as pure spirits, silent spirits, or deodorized alcohol, and may readily be distinguished from ordinary alcohol by the absence of that peculiar pungency of odor which is present to a greater or less extent in most commercial samples.

Ottos or Essential Oils.—It is of the greatest importance that these should be strictly pure and of the finest quality.

Pomades.—From these are prepared some of the simple extracts in the appended formulæ, such as jasmine, tuberose, and cassia. The quality must be that known as triple pomade. The simple extracts are prepared as follows: one pound of the pomade is cut in small pieces and placed in a bottle of sufficient capacity, in which is put a pint of pure spirit. Place the bottle, suitably stoppered, in a water-bath, and apply heat sufficient to barely melt the pomade, shake well together, and repeat the shaking frequently until the fatty matter solidifies. In this way the pomade will be reduced to a finely divided or granular state, permeated thoroughly by the spirit. Allow this to stand for several days, giving it an occasional shake, then drain off the liquid extract into another bottle; if this fall short of a pint repeat the operation with a sufficient quantity of alcohol to make up this measure. By subsequent and similar treatment, a second and even a third quantity of extract may be made, which although much weaker, will be found useful in the preparation of cheaper perfumes.

Extract of Orris.—Seven pounds of finely ground orris root of good quality are treated by percolation with pure alcohol until one gallon of extract is obtained.

Extract Vanilla.—Take four ounces of vanilla beans of the finest quality, powder finely in a mortar with a sufficient quantity of dry white sugar (from four to six ounces); pack in a percolator, and percolate with proof spirit until one gallon is obtained.

Extract Tonka.—Take one pound of tonka beans, reduce to a coarse powder, and percolate with alcohol, to make one gallon.

Extract Musk.—Take of pure grain musk of the first quality two drachms. Mix half an ounce of liquor potassæ with four ounces of proof spirit, and triturate the musk with this mixture until it is thoroughly softened and reduced to a creamy state; add enough proof spirit to make up about one pint, stir well, then allow the coarser particles to subside, and pour off the supernatant fluid. Rub the coarser portions again with a fresh portion of spirit, proceeding as before, and repeat the process until the musk is entirely reduced, and the quantity of extract measures three pints. Allow this to stand for a fortnight, with occasional shaking, when it will be ready for use.

Extract Styrax.—Eight drachms of styrax balsam dissolved in one pint of alcohol.

Benzoic Acid.—Only that prepared from gum benzoin should be used.

[For the formulæ accompanying this paper, see page 92.]

On the Chemical Composition of Muriate of Morphia.

A COMMITTEE appointed by the *Société medico-pratique* to inquire into the causes of the alleged uncertain results obtained with the muriate (or hydrochlorate) of morphia, report that the probable primary cause has been the variation in the statements regarding the chemical constitution of the salt, as given by various authorities. Owing to the fact that the salt was regarded to contain more or less water of crystallization by different investigators, it was said to contain 75.9, 76.15, 80.0, 88.74, and even 90 parts of morphia. The true percentage is given correctly by the Codex as 75.9 of the alkaloid (understood as anhydrous) in 100 parts of the salt. The committee recommend two methods for preparing stable solutions: one consists in dissolving the salt in water distilled from meadow-sweet (*Spiræa ulmaria* L.*); the other consists in the addition to the solution of one-tenth part of alcohol.—From *Rép. de Pharm.*, 1876, 728.

A New Ureometer for Clinical Use.

THE exact methods for the determination of urea in organic liquids are far too complex and tedious to be of more than occasional service to busy medical men, whilst the readier methods are not sufficiently accurate to be of more than approximate value. The method of estimating urea by means of a solution of sodium hypobromite, given by Hüfner,† and the modification of it proposed by Russell and West,‡ are very convenient for clinical purposes, but even these leave something to be desired on the score of accuracy.

[In the *Practitioner* for January of this year Drs. Russel and West state that they have found the hypobromous solution to decompose in hot weather more quickly than they expected, and that it is very important that it be freshly prepared.

They draw especial attention to this and suggest that the solution be prepared in the following manner:

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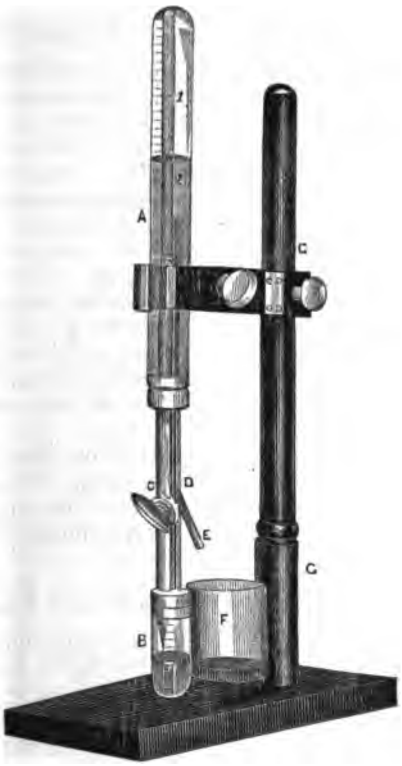
* See NEW REM., v., 253. The oil of Spiræa contains salicylous acid.

† *Journ. f. Prakt. Chem.* [2], 3, 1.

‡ *Practitioner*, Feb., 1875.

A solution of caustic soda is made in water in the proportion of 100 grammes of solid caustic soda to 250 cc. of water. This solution may be made in large quantities for it will keep good for a very long time. To part of this solution bromine is added in the proportion of 25 cc. to every 250 cc., of caustic soda solution *at the time it is required for use.*]

With the view of simplifying the operation of ureometry to the utmost extent compatible with the necessary accuracy, M J. G. Blackley, of London, devised the form of apparatus represented in the cut. It consists of two graduated tubes, a larger one, *A*, of about 75 c.c. capacity, and a smaller one, *B*, of about 15 c.c. capacity, closed by perforated india-rubber stoppers through which pass the tubes *C* and *D*. *C* is the wider of the two, and is provided with a glass stop-cock. Its lower extremity drawn to a fine point, descends about half way into the tube *B*. *D* is a narrower tube and ascends about half way inside *A*. *E* is a short, slightly bent tube, passing through the india-rubber stopper into the tube *A*, and serving as an egress for the superfluous contents of *A*, which are collected in the beaker *F*, the whole being supported by the wooden stand *GG*.



The method of using the apparatus is as follows:

The tube *A* is filled with a solution of sodium hypobromite, and its stopper inserted. Then 5 c.c. of the liquid to be examined are placed in the tube *B*, and its stopper (which has previously already been adjusted upon the ends of the glass tubes *C* and *D*) is inserted to the level of a scratch on the outside of the tube, the stop-cock being turned off. The apparatus is then placed in position on the stand, and the stop-cock gradually opened. The hypobromite solution flows down the tube *C*, decomposition takes place, and the gases evolved, ascending through the tube *D*, are collected in *A*. The superfluous hypobromite solution flows out through the tube *E* into the beaker *F*. To complete the operation, the apparatus is removed from the stand, after placing the finger over the mouth of the tube *E*, and agitated for a few moments. It is then replaced, and after allowing time for the froth to subside, the quantity of the gas collected is read off. After subtracting the small constant of air contained in the tube *B*, the remainder gives by calculation the quantity of urea present in the 5 c.c. of liquid examined. Under ordinary circumstances the whole operation may be completed in five or six minutes.

Instead of having the tube *A* graduated into cubic centimetres, it is convenient to have the graduation indicate at once the percentage of urea, as is the case with the tube supplied with Russel and West's ureometer.

Mr. Blackley furnishes some analytical evidences of the accuracy and utility of this method, and adds that the apparatus may be had from E. Cetti & Co., of Brooke Street, Holborn, London.—*Journal Chem. Soc.*, Nov.

On Emulsions.

THE following paper was read at the last meeting of the *American Pharmaceutical Association*, by Edmund Gregory, Lindsay, Ont., in answer to Query 39: "How much acacia is needed to emulsify perfectly the fixed or volatile oils and balsams?"

"There exists so much difference of opinion as to the comparative success of various methods for producing emulsions, that it gives rise to a suspicion, there may be an equal difference in the estimate of what qualities are essential to the constitution of a perfect emulsion. Hence the necessity of a fixed standard of excellence. Such a standard we find in the milk of the cow. An emulsion, then, should be white as milk, and should have its fat-globules too small to be visible to the unassisted eye, and so well suspended that, although on standing a cream-like layer may rise to the top, it will readily reunite on shaking. Adopting this standard, the writer will endeavor to enumerate the various methods proposed for making emulsions, and to give the results of actual experiment. Considering oil of turpentine as a fair type of the volatile oils, and that they are the most difficult class of substances to operate with, researches have been mostly confined to that drug. Premising these remarks, I proceed to consider—

1. The method which directs that equal parts of mucilage of acacia and oil should be put into a bottle and well shaken together, the requisite quan-

tity of water being gradually added. If the mucilage be fresh, the bottle only partially full, and the shaking very vigorous, tolerable results can be obtained with castor oil, moderate results with balsam copaiva, and with oil of turpentine a total failure. But in all cases the oil-globules are distinctly visible to the naked eye.

2. Equal parts of oil and mucilage are put into a mortar together, and briskly triturated.

This gives barely tolerable results with the balsam and thicker oils, but with oil of turpentine it is a total failure, no amount of labor producing the slightest effect.

3. Equal parts of oil and mucilage, the oil to be gradually added, triturating briskly after each addition until the portion added is emulsified.

A fair result can be obtained by this process, if the operator have plenty of patience, and a liberal supply of muscle, but the product is too dark in color. The oil-globules are not visible to the naked eye, but can be easily seen with a magnifying power of three diameters. It separates into two layers in two and a half hours, the lower layer being dark, but not watery.

4. The next process is that wherein equal parts of mucilage, water and oil are put into a suitable vessel, and agitated with an egg-beater until emulsionized.

This yields a tolerable result, is simple, and requires no skill, but is rather laborious, and yields a product very dark in color. The oil-globules are not visible to the naked eye, but quite distinctly under a power of three diameters. It separates into two layers in three hours, the lower layer being very watery.

5. The next process tried was that of Mr. Charles F. Hartwig (published in the *Pharmacist*, Oct., 1875), in which one part of mucilage and one part of water are put into a suitable vessel, thoroughly mixed by being drawn up into and ejected from a small vaginal syringe, and one part of oil having been added, the emulsion is produced by the use of the syringe alone in the same way.

This process yields excellent results, but the emulsion is not quite as white as it should be; the process is rather tedious, and the after-cleaning very troublesome. It is the best of the processes in which officinal mucilage is employed. The oil-globules are invisible to the naked eye, but are distinctly seen with a power of three diameters. It separates into two layers in twenty hours, the lower layer being milky in appearance.

6. A process, published in the *Journal of Pharmacy* in February, 1872, by Mr. J. Winchell Forbes, and apparently designed more especially for oil of turpentine, in which he directs that one part of oil shall be put into a bottle and shaken, then one-eighth part of pulverized acacia, and after thorough agitation half a part of water added, the whole to be then vigorously shaken until emulsified.

The resulting emulsion is deficient in whiteness. The oil-globules are distinctly visible, as a multitude of gem-like points, under a magnifying power of three diameters, and are also visible to the naked eye, if a drop be placed on a plate of glass and held up between the eye and the light. It separates into two distinct layers in fifteen minutes, the lower layer being quite watery, but it easily reunites on shaking.

7. If, however, in the preceding process, three-eighths of a part of pulverized acacia be used instead of one-eighth, a very good result is obtained, the product being much whiter, the oil-globules about half the size, and quite invisible to the naked eye. It now takes twelve hours to separate into two layers, the lower layer, however, being still watery.

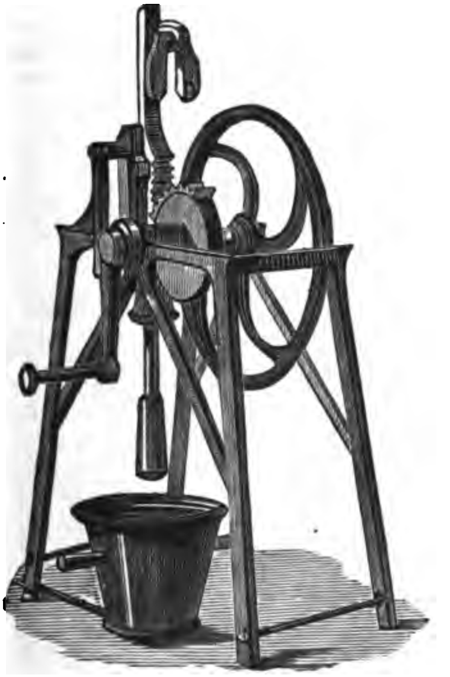
8. The next process for consideration is described on page 343 of *Mohr and Redwood's Pharmacy*, English edition of 1849, in which one part of pulverized acacia and one and a half parts of water are put into a mortar, and after thorough trituration three parts of oil are added gradually, each separate portion being emulsified before another is added. The results are admirable, the product being white as milk. The oil-globules are not visible to the naked eye, but slightly so under a power of three diameters, and it does not separate into two layers under twenty-four hours, the lower layer having the appearance of milk.

9. The last process which will be referred to is recommended by Mr. Hans M. Wilder, in the *Druggist's Circular* for December, 1874. One part of pulverized acacia and two parts of oil are put into a mortar and rubbed up together; one and a half parts of water are then added at once, and with a few revolutions of the pestle the whole is emulsified.

It has yielded in my hands the very best results. The emulsion is beautifully white, scarcely to be distinguished from milk, and the necessary manipulations are very speedy and simple. The oil-globules are totally invisible to the naked eye, and not very perceptible with a power of three diameters. It separates into two layers in twenty-four hours, the lower layer being quite like milk, whilst the upper would pass for cream, and at the time of writing this, four days after making, retains the same appearance, and is by far the best out of six samples that are standing undisturbed before the writer.

In summing up results, the conclusion must be arrived at, that those who desire an unexceptionable emulsion, must abandon those processes in which officinal mucilage is used, and adopt one, which calls for pulverized acacia. Any inquirer, who will take the pains to prepare a series of emulsions according to the formula as given above, and will set the bottles in a row before him, will in a few hours receive a very striking lesson. Of these processes No. 9, of Hager and Mohr, noticed by Mr. Hans M. Wilder, is the quickest, is simple, demands no apparatus that does not exist in every pharmacy, and yields unexceptionable results. Next to this comes process No. 8, taken from *Mohr and Redwood's Pharmacy*, which yields an admirable product, but is a little more tedious than the preceding. No. 7, Mr. Winchell's process improved, is admissible when a pestle and mortar cannot readily be obtained from any accidental cause, but it will scarcely succeed with the more viscid oils or balsams, such as castor oil or balsam copaiva. Of the processes using officinal mucilage, the only one yielding a good result is that of Mr. Hartwig, No. 5, in which the vaginal syringe is used.

In answer, then, to the query at the head of this paper, the writer would say, that three drachms of acacia in fine powder are necessary to emulsify one ounce of any of the volatile oils, and that a little less (about two drachms) will answer for the fixed oils and balsams, and that to this quantity of gum four drachms and a half of water must be added (no more and no less), and that either the water or oil may be added first to the gum, but it is quickest to add the oil first, and well triturate before adding the water. Less gum can be made to yield a good result by a careful operator, but as a general practical working rule it may be said that three drachms are necessary for one ounce of oil.*



Powdering Apparatus.

The simple apparatus, which is figured in the accompanying cut, is intended chiefly for the use of those who are compelled to do their own powdering, without having access to steam or other power; and it is said to give great satisfaction to all who have used it. Flaxseed-meal, mustard, gum arabic, cinchona bark, rhubarb, alum, cream of tartar, cubebs, and many other brittle drugs are rapidly comminuted by it, and may be obtained of any degree of fineness by passing the powdered mass from time to time through the proper sieves. About 75 pounds of flaxseed and about 50 pounds of mustard may be obtained in salable powder during an ordinary day's work. The apparatus takes up but little room, and is nevertheless very solid and durable. The pestle weighs about 56 pounds, and its fall being about 1 foot, the power is very large. The powerful gearing of the lifter is incapable of being broken, and in spite of the weight of the pestle the number of strokes per minute may reach 55 or 60 without difficulty. The price, in Paris, varies from 170 to 280 francs.

Distinctive Tests for Carbolic and Salicylic Acids.

According to Almén the delicate reaction of ferric chloride with salicylic acid may also be used to distinguish carbolic from salicylic acid in very dilute solutions. Both acids give a violet color with the iron salt, but, while the utmost limit of perceptibility of the tint in the case of carbolic acid is 1 in 3,000, the color produced by salicylic acid remains intense in dilutions of 1 in 100,000, and is still discernible even in solutions containing only 1 in 1,000,000. The most sensitive test for both acids is said, by Almén, to be the well-known Millon's reagent, prepared by dissolving mercury in ordinary fuming nitric acid and diluting with two volumes of water. The less acid the reagent is, the more delicate a test it is for both salicylic and carbolic acids. Five or ten drops of Millon's reagent are added to about 20 c.c. of a solution of these acids, and the mixture is heated to boiling, which causes the precipitation of a yellow basic salt of mercury. To the boiling hot liquid as much nitric acid is added as is required to redissolve the precipitate. In presence of either acid, the solution assumes an intensely red color, which increases in depth by standing. The limit of perceptibility of this reaction is one in 2,000,000 for carbolic acid, and but little less for salicylic. In dilutions of one in 400,000, the color appears instantaneously, in higher dilutions only after the lapse of ten to fifteen minutes. The best method to detect the presence of carbolic in salicylic acid or in salicylates is probably the well-known reaction with ammonia and sodium hypochlorite,* consisting in the production of an intensely blue color, which turns red on addition of an acid, and is restored by alkalies. Free chlorine and the presence of free acids interfere with the reaction, especially in warm solution; hence an excess of sodium hypochlorite, especially in very dilute solutions, must be avoided, and a sufficient quantity of ammonia must be added to maintain an alkaline reaction. Solutions of phenol, containing one in 5,000, give the reaction at once; dilute solutions, containing one in 30,000, after about fifteen minutes; and even still more dilute solutions, up to one in 50,000, after twenty-four hours. Solution of salicylic acid, even concentrated (one in 1,000), does not give this reaction, which enables us therefore to detect the presence of phenol in salicylic acid.—*Pharm. Zeit.*, No. 100.

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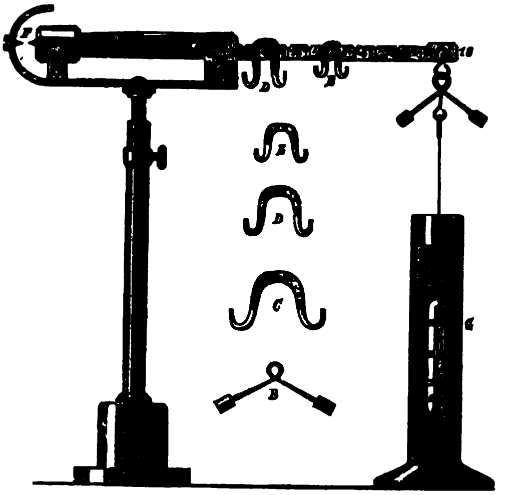
* Forbes's method of making an emulsion of oil of turpentine will be found in our last volume, V., p. 287.—Ed. N. R.

* See New Rem., v., 343 (b, 11.)

Mohr-Westphal's Specific Gravity Balance.

THE construction of this ingenious instrument, which permits very exact and rapid determinations of specific gravity, depends upon the principle, that the loss of weight, which one and the same body suffers in different liquids, is proportional to the density of the latter.



Upon one arm of the balance, which is divided into 10 equal parts (see figure), is suspended, by means of a fine platinum wire, the thermometer *A*, which is exactly balanced by the other arm. *B*, *C*, *D* and *E* represent the shape of the weights, the first three being made of brass, the last of aluminium. *B* and *C* are each equal to the loss of weight (v) of the thermometer *A*, when immersed in water; *D* is equal to $\frac{1}{10}$ of v, and *E* is equal to $\frac{1}{100}$ of v.

If it is desired, for instance, to determine the specific gravity of urine with this balance, the urine is poured into the cylinder *G*, into which the thermometer *A* depends. The weights are then so attached, that, while *A* is completely immersed, exact equilibrium is restored, which may be recognized by the correspondence of the points at *F*.

Supposing it had been necessary, in order to restore equilibrium, to suspend *B* upon the division 10, *D* upon division 2, and *E* upon division 5: the specific gravity of the urine would be 1025.

Examination of Salicylic Acid.

PROF. H. KOLBE recommends the following method to ascertain the purity of a sample of salicylic acid: Dissolve a small quantity, about 0.5 gm., in about 10 parts of strong alcohol, pour the clear solution into a watch-glass, and allow it to evaporate slowly at the common temperature. The residuary acid forms around the margin of the watch-glass a ring of handsome aggregates of effloresced crystals. These are purely white, if the acid was entirely pure and recrystallized; but they are yellowish or yellow, if the acid was merely precipitated. If the ring is brownish or brown, the acid, although it may have appeared to be pure and white, is to be rejected as impure.—*Journ. prakt. Chem.*, 14, 143.

Dr. H. Hager gives a still better criterion of the purity of this acid. Having obtained some of the absolutely pure dialysed acid, manufactured by E. Schering of Berlin, he found that it did not impart any color to concentrated pure sulphuric acid. All other varieties of acid, although some of them stood Kolbe's test, imparted a more or less yellowish, yellow, or brownish tint to the acid. The most decisive test of salicylic acid for purity is, therefore, to add to a small quantity of it some colorless concentrated sulphuric acid, and to shake. The acid should remain colorless, or at most only assume a trace of color.

Mineral Oils.—Their Purification and Use in Pharmacy.

M. MASSON, of Lyons (*Pharmacologiste*), finds that mineral oils may be deodorized so as to fit them for pharmaceutical and other uses. The process is cheap and simple, and consists in treating them with—

	Parts.
Alcohol (95°)	500
Sulphuric acid	60
Nitric acid	60

per 100,000 parts of petroleum oil.

The acids are first introduced separately, by means of a funnel with a long tube reaching nearly to the bottom of the vessel. The spirit is then poured on the surface of the oil, and precipitates slowly, uniting with the acids. Heat and slight effervescence are thus set up, producing the distillation of a small quantity of nitrate of ethyl or nitric ether. The new products have a very agreeable smell, and the substances so treated take a yellowish tinge, and have also an agreeable odor. The operation takes about an hour, after which the oil should be well agitated and washed with water, and left to stand for eight or ten hours. The surface liquor, which is deodorized petroleum, is then decanted, leaving behind a mixture of acids, water and alcohol. This may be used in purifying what are known as fatty oils. It should be well stirred therein, and the mixture left for twelve hours, and afterwards twice washed with milk of lime. The oil is thus deprived of its acids and other foreign matters, and loses much of its rank smell. It will be found well adapted for lubricating purposes.

In pharmacy, the author has found petroleum purified and deodorized as above an excellent substitute for rectified spirit. Various tinctures for external use, camphorated, etherized, and chloroform solutions so prepared answer as well as with an alcoholic base.

The first trials were made in veterinary practice. Mixtures of deodorized petroleum with fats or glycerine are likely to prove of much value in the treatment of skin diseases, etc. A mixture of petroleum and glycerine has a very pleasant odor, and is said to be as efficacious as the preparations of sodic or potassic sulphide now in use.

In veterinary pharmacy, more especially, it is submitted, a very important saving would thus be achieved. Rectified spirit of 95° now costs in France 330 francs per 100 litres. An equal quantity of deodorized petroleum would cost only 80 francs.—*Chemist and Druggist.*

Labarraque's Solution.

A CORRESPONDENT of the *Industrie Blätter* recommends the use of sodium bicarbonate in excess, instead of the simple carbonate, to decompose chloride of lime, for preparing a solution of chlorinated soda. With the simple carbonate the mixture forms a sort of emulsion, from which it is not always easy to remove the clear liquid; while on using the bicarbonate, the precipitate becomes crystalline, and may be very readily separated from the liquid.

Ferric Chromate.

IF a solution of ferric chloride be added to a solution of neutral potassium chromate, a light orange-colored precipitate is produced* which contains, when dried at 40° C., 34.58 per cent. of ferric oxide and 65.42 per cent. of chromic acid, corresponding to the formula $Fe_2O_3, 3CrO_3$. This compound is insoluble in water, easily soluble in acids, is unaffected by sulphuretted hydrogen, and is therefore preferable to lead chromate as a pigment.—*Zeitsch. d. Oest. Ap. V.*, 1877, p. 12.

Utilization of Sea-Weed.

AT the Chemical Works at Aalbourg, in Jutland, Denmark, where about thirty tons of alkali are made per week by the ammonia process for obtaining alkali from sea-weed, Mr. Theowald Schmidt, the director of the manufactory, proposes to work, in conjunction with this process, a method devised by himself of treating sea-weed so as to obtain iodine, potash-salts, and other marketable products therefrom. In Denmark a very heavy duty is levied on the importation of common salt, while enormous quantities of sea-weed rich in iodine and potash can be obtained at small cost in the neighborhood of the works. Mr. Schmidt's process is as follows: After the sea-weed is dried and burned a concentrated solution of the ash is made and added to the liquor containing chlorides of sodium and calcium, left after the ammonia has been recovered in the ammonia-soda process by boiling with lime. The sulphates of potash, soda, and magnesia contained in the ash of the sea-weed are thereby decomposed, and hydrated sulphate of lime and hydrated magnesia are precipitated in a form which may be available for paper-making, as "pearl-hardening." The last traces of sulphates are got rid of by adding a small quantity of solution of chloride of barium. To the clear solution nitrate of lead is now added until all the iodine is precipitated as iodide of lead, which is then separated by filtration and treated for the production of iodine or iodides. After filtration the liquid is boiled, nitrate of soda is added to convert the chloride of potassium present into nitrate of potash. The latter is separated by crystallization. There remains a solution of common salt containing traces of ammonia from the previous soda operation and a trace of chloride of potassium. This solution is again treated by the ordinary ammonia-soda process for the production of tbicarbonate of soda and white alkali.—*The Quar. Jour. of Sci.*

Detection of Iodic in Nitric Acid.

THE common occurrence of the acid oxides of iodine in commercial nitric acid has already been pointed out by Friedburg,* and various reagents have been proposed to detect them. But it is extremely difficult and uncertain to obtain the same reaction even with the same solution under all circumstances. Mr. Ernst Biltz, who has introduced a novel method of analysis, proposes the following test as leading to absolutely certain results: Dilute from 3 to 5 gm. of the nitric acid in a test-tube (about 1.3 cm. wide), with an equal weight of water, mix the liquid with a few drops of starch solution, and allow a few drops of sulphuretted hydrogen water to flow on top. If the nitric acid contains even as small a quantity as $\frac{1}{100000}$ of iodic acid, a sharply defined blue ring of iodide of starch becomes visible, and is best seen by looking across the point of contact against a white background. Supposing 3 gm. of nitric acid had been used, containing 0.00005 of iodic acid, and supposing that the 10 gm. of mixture in the test-tube should be 70 mm. ($2\frac{3}{4}$ inches) high, the thickness of the iodide of starch layer will be about $\frac{1}{6}$ mm., and its weight about 0.025 gm. But since the reaction only extends to a minute fraction of the acid solution, the delicacy of the test, if calculated for the whole bulk of the 10 gm. of diluted acid, would be about 1 in 10,000,000.—From *Pharm. Centralbl.*, 1876, 401.

Solubility of Phenol in Water.

ACCORDING to W. Alexejeff, the solubility of phenol in water, and of water in phenol, increases rapidly towards 80° C. (176° F.), and at 84° C. (183.2° F.), both liquids are miscible in all proportions.—*Ber. d. D. Chem. Ges.*, 1876, p. 1810.

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* R. Kayer, *Moniteur des produits chimiques*, v., No. 20.

* See NEW REM., v., 106.

THERAPEUTICS.

Metalotherapy.

SOME years ago a good deal was said of the theory of cure by local application of metals, by M. Bury, and great attention was attracted by his persevering efforts to bring to notice alleged curious effects produced by the application of metals upon surfaces deprived of sensation. Trousseau, among others, observed that when a metal was applied for a certain time upon the insensible surface of a limb, at the end of about a quarter of an hour an incomplete sensibility returned in a restricted zone of skin, and from that point spread gradually during the twenty-four hours over the whole limb. Sensibility returned, and at the same time the skin reddened, the temperature rose, and even the muscular force seemed increased. Strange to say, all the metals did not act in the same way with the various patients; on some it was gold which acted, on others copper or zinc, but the same metal always acted on the same patient. These observations have been renewed by Drs. Charcot and Dumontpallier; but their explanation is still quite unknown. At the instigation of M. Charcot, who has brought these facts once more before the Society of Biology in Paris, physicists, chemists, and physiologists are studying the question actively, and possibly some useful result may follow, either in information as to electrical relations of the body, or in respect to the therapeutical applications of the observation.

Salicylic Acid.

M. A. ROBIN asserted, in a communication to the Biological Society of Paris, that in typhoid fever salicylic acid almost constantly diminishes the quantity of urine excreted, and the quantity of indican increases under its use; moreover, it produces ulceration of the back of the throat, and even consecutive œdematous inflammation of the larynx. He recommends only very dilute solutions in typhoid fever, for fear of arresting the flow of urine. He had observed a buzzing in the ears as the result of the use of salicylic acid. M. Leven is opposed to the use of this substance in typhoid fever. Powerless in small doses, it causes serious trouble in the digestive system, which are especially dangerous in that disease. M. Lepine finds, also, that the acid is very slightly excreted in typhoid, and that it produces a buzzing in the ears, but less intensely and less constantly than with quinine. Valuable in some cases of acute rheumatism, it renders no service in typhoid fever.—*British Med. Jour.*

A Parisian correspondent of the same journal, speaking of the views of Professor Sée on the same subject, says:

"There is scarcely any drug in the whole Pharmacopœia, whose elimination from the system is more rapid than that of salicylic acid or its preparations. In consequence of this rapid elimination it is necessary to administer it in small doses and at short intervals—about every hour, for instance."

Curative Effects of mild continued Counter-irritation of the Back in Cases of General Nervous Debility and Spinal Irritation.

DR. ARTHUR GAMGEE recommends the compound mustard liniment (Br. Ph.) as the best available counter-irritant in these cases, as it produces a remarkably active irritation of the sensory nerves of the skin, which subsides to a great extent when the preparation is removed, but which can be renewed almost indefinitely without leading to any eczematous, pustular, or ulcerative condition. He finds this plan of treatment more successful than the use of iron, cod-liver oil, phosphorus, or the constant galvanic current. The theory of its action which he gives is, that counter-irritation exerts a tonic action on the local vaso-motor nerve centres.

In consequence of the expensive character of the essential oil of mustard, and the ethereal extract of mezereon which enter into the composition of this liniment, it is very commonly adulterated and is nearly inactive. When properly prepared, the liniment should possess a very pungent odor, and should produce an almost painfully acute sensation in the nostrils when it is smelled. If properly prepared a few drops of linimentum sinapis sprinkled over a pad of cotton-wool ten or twelve inches long and four or five inches broad, will suffice to produce, in a few minutes, pretty intense redness of the skin of the back, accompanied by more or less of the painful or burning sensation characteristic of mustard.

The general result of the use of this mode of counter-irritation is thus described: "On the first or second day of the treatment, the patient, if a delicate hysterical girl, may complain that the pain caused by the mustard is almost unbearable, and she may declare that the application cannot be continued. By diminishing the amount of mustard oil used, however, all such urgent objections on the part of the patient are removed. As soon as the application has been so controlled as to bring on merely an active glow and not unpleasant tingling of the skin, the patient declares that the increase in her strength is marvellous; the pain in the back and limbs undergoes a diminution, or, as long as the mustard counter-irritation is kept up, are completely in abeyance, the irritability of temper diminishes, and simultaneously the general health undergoes marked improvement.

"The increased feeling of vigor produced by the treatment is not illusory; as a rule, I have found that the improvement thus commenced has kept up so that a hysterical girl who has been for some weeks confined during the day to a couch to which she could with difficulty make her way from her bedroom, has in a few days cheerfully taken walks of considerable length."—*The Practitioner*, February.

On Goa Powder.

THE following remarks on this subject are by Dr. H. R. Crocker, in the *Lancet*:—

The botanical name of the plant from which it is derived is not known, but it has been referred to different species of Centrolobium and Cæsalpinia, growing in Brazil. They all contain the large proportion of eighty per cent. of chrysophanic acid, easily obtained by exhausting with hot benzole, its best solvent; on evaporation the acid is left as a yellow granular powder. Another more wasteful method is by sublimation, which yields a comparatively small quantity of yellow moss-like crystals.

The first cases were treated by painting on the patches a saturated solution of chrysophanic acid in benzole, which retains ten grains to the ounce in the cold. Cases of tinea circinata were cured by this in about half a dozen applications. Other cases were treated with an ointment consisting of chrysophanic acid, twenty grains; acetic acid, twenty minims; simple ointment, one ounce, according to the formula of Dr. Lima.

In India it is generally used made into a paste, with vinegar or lemon-juice, as mentioned by Sir Joseph Fayrer. The powder from which the acid was obtained was supplied by a city firm. After I had treated a few cases in this way, I received, through the kindness of Dr. Ringer, a canister of Poh de Bahia, sent direct to him from Bahia by Dr. Paterson. This was used in all subsequent cases, made into an ointment of the same formula as that above, the powder itself being employed instead of the chrysophanic acid, which existed in this specimen, according to the analysis of Mr. Gerrard, the hospital dispenser, in the proportion of eighty-two per cent. In a few cases an ointment of forty grains to the ounce was employed, and in all it was directed to be well rubbed into the patches every night. The presence of the fungus was in all cases established by the microscope before the application was commenced, and frequent microscopic examinations were made in the course of the treatment.

The following are the results obtained:—

Of nine cases of tinea circinata in various parts of the body, as the arms, neck, and face, all were cured in a week or ten days; in some a single application being sufficient. Some of these had had the disease several months, and had had other treatment.

Of tinea tonsurans twenty cases were treated, but the results were by no means so satisfactory; in most of them other remedies had been tried, and the disease had existed for some time. When tinea circinata and tinea tonsurans occurred together in the same case, the ringworm on the body was readily cured. Of the whole twenty, two were cured completely, one in six weeks, the other in two months. In seven there was certainly improvement—that is, where there were several patches some were cured, but in the other patches the hairs were still diseased. The remaining eleven cases were only slightly improved, though the treatment was kept up for at least three months, and even longer.

Nussbaum's Narcosis produced by Narceïne.

IT is known that the subcutaneous administration of a few centigrammes of morphia, about fifteen minutes previous to placing a patient under the influence of chloroform, although not interfering with the anæsthetic effect of the latter, prevents the complete loss of consciousness. This peculiar state is known as "Nussbaum's narcosis," and is particularly valuable during operations upon the face, in the mouth or in the fauces, as the patient is thereby enabled to prevent the blood from entering the larynx and trachea, and to obey all commands of the operator: opening the mouth, coughing, or spitting out when ordered to do so. Belladonna has likewise been observed to produce this result, when combined with chloroform. The similarity of effects between morphia and narceïa led Dr. Karl Heintz to try the latter for the same purpose, and he relates his experiences as follows:

"I had an opportunity of trying the combination upon a female patient, with eight carious teeth, which had to be removed. Fifteen minutes before the administration of chloroform I injected 0.02 gm.* of narceïne (muriate) into the left forearm. Narcosis was somewhat tardy, but when fully set in, and the patient was ordered to open the mouth, she obeyed at once to the fullest extent of her power. Being told to spit out, after the removal of some of the teeth, she leaned over, and did so. More of the teeth having been extracted, she was ordered to spit out again, and then to open her eyes and to see if she recognized any of the persons present. She looked at them all, and called them by their names. Immediately afterwards I extracted the remainder of the teeth, without any further administration of chloroform, and only when cutting off a small piece of flesh from her gums by means of scissors, did she remark that she had felt any pain; next day, however, she could not remember the circumstance. Having communicated these results to my chief, Prof. Nussbaum, he allowed me to employ the same method upon a patient, who was to be operated upon in the face on the following day. The same amount of narceïne was used as in the former case. Narcosis set in later than usual, but when fully established, no more chloroform was administered from the time of the first incision to the closure of the wound by sutures—nearly one-half hour. The patient showed no signs of painful sensation, coughed and spat out on command, and answered all questions. Having been brought to bed, he slept quietly a few hours, and in the evening he told me that he had felt no pain whatever, but perceived distinctly that he was the subject of some operation."—*Neues Rep. f. Pharm.*, 1876, 697.

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* On the solution of this salt see pg. 83.

Analysis of One Hundred and Nine Cases of Rheumatism treated with Salicylic Acid and Salicin.

In the *Boston Medical and Surgical Jour.* of Feb. 8 is an interesting paper, with tables, by C. W. Brown, of cases of rheumatism lately treated at the Boston City Hospital, from which we make the following extracts:

"The average time to relief, that is, to the hour when the symptoms were distinctly ameliorated, was 1.46 + days, varying from three hours to four days. This is probably much too high, as in very few cases were more than ten to fifteen doses needed before marked benefit was experienced. The average time to complete cessation of pain was 2.85 + days, varying from twelve hours to fifteen days.

"The average amount of acid taken to produce relief was one hundred and fifty-four grains; the quantity varied from thirty to two hundred and ten grains. The amount required to produce complete relief from pain and mobility of the joints was 531.22 grains to each patient; to each attack, 343.73 grains. Deducting the three largest amounts taken, 880, 940, and 2250 grains, the average to each patient was 400.84 grains. The average time during which the acid was taken by each patient was 6.22 days, varying from one day to thirty-one days. Excluding cases 1, 19, 26, 36, and 103, the average number of days each patient was in the hospital was 18, varying from three to fifty-nine days.

"The unvarying effect of giving the acid in full doses, in acute cases, was to cause a fall of temperature, but never much below the normal point. The effect on the pulse and respiration was less marked, as they usually fell less rapidly. The pulse rate often increased for a time in weak or debilitated subjects.

"Experience has shown that the acid is much better adapted to acute than to other varieties of rheumatism. The author reports a number of actual cases of acute rheumatism, treated by ten-grain doses hourly, as a fair example of the effect on pulse, temperature, and respiration.

"The patients were usually placed upon treatment by the house physician soon after entrance, the common dose being ten grains every hour while awake, for twelve to thirty-six hours, when the symptoms were wholly or partially relieved.

"Then the practice has varied, the acid being omitted altogether, or reduced to ten grains every two or three hours for a time, to be again reduced and finally omitted in from ten days upward. Usually no opiates were given, and no attention was paid to the condition of the bowels. The acid was first taken in wafers, but it occasionally happened that an awkward patient would break one in his mouth and release the pungent acid, producing very unpleasant sensations, and perhaps a refusal to take any more. A substitute was found, in the service of Dr. Blake, in pills made with honey or molasses, containing 3⅓ grains each, about the size of a compound cathartic pill. They have been much more satisfactory, and have been almost exclusively used since. The various solvents, soda and ammonia salts, glycerine, etc., have been but little used. The number of cases treated with salicin is too small to base any definite conclusion upon as regards its value when compared with salicylic acid or any other method of treatment. It certainly acts more slowly than the acid. It has been used in six cases during part of the treatment, and in three during the whole. The dose varied from five to fifteen grains per hour, and was taken with no bad effect; in fact, those who took it throughout had excellent appetites, and made a rapid and thorough convalescence, instead of being left in a generally poor condition with no appetite, as was too often the case with those treated with salicylic acid. Of the six cases who did not take salicin continuously until recovery, four were relieved, and two were not relieved after taking it from two to four days. The three cases who took it throughout were acute, of moderate severity. The heart was normal in all. The average time to relief was 2⅓ days; to complete relief, 6⅓ days; the average amount taken was 346⅔ grains, ten grains every hour. The average time in hospital was 13⅓ days.

"There was relapse in one case. Because of its better general effect on the patient, salicin seems to merit a more extended trial."

Iodine and its Preparations in the Therapeutics of Infancy.

In a clinical lecture delivered at the Paris Hospital for Children, M. Jules Simon lays particular stress upon the following points:—Tincture of iodine should not be applied pure in tubercular children; it should be diluted with either glycerine or with some unguent. Neither iodide of potassium nor iodide of iron should be given to children under two years of age, except perhaps in cases of acute hereditary syphilis, where small doses may be administered. It may be given to the nurse if the child has not been weaned. Older children bear the drug well. Those who are especially benefited by it are patients robust in appearance, but with soft, inelastic flesh, and with manifestations of incipient scrofula. Iodoform is of great service in cases of ozæna and scrofulous wounds. Albuminuria has been observed by M. Simon in a large number of cases to follow painting on the surface with tincture of iodine, especially when it is applied to eruptions. Iodide of potassium produced the same result, but in a smaller degree. Under this head further investigations are promised.—*Boston Medical and Surg. Journal.*

Treatment of Sciatica.

The Practitioner a short time since sent out a form to be returned by such as chose to answer certain questions in regard to the treatment of sciatica. The following is a synopsis of the remedies recommended. The diversity of practice was great, but the following is the numerical order: Quinine, 29; iodide of potassium, 28; colchicum, 27; bicarbonate of potash, 15 (14 speak generally of alkalies); iron, 14; arsenic, 11; opium or morphine, 10; guaiacum, 7; aconite, 7; mercury, 6; chloride of ammonium, 6; lithia, 4; actæa racemosa, 4; colocynth, scoparius, croton-chloral, and chloral, conium, henbane, turpentine, phosphorus, salicine, trimethylamine, each 1. Several recommend the combination of colchicum with magnesia, and one treated it with strychnine and arsenic.

As regards local measures, the following will show their comparative popularity: Hypodermic injection, 34 (of whom 12 use a combination with belladonna); liniments, 33; blisters, 23 (of whom 5 dress the blister with morphia); ointments containing analgetics, 5; counter-irritation, 5; hot baths, 5; hot flannels, 3; warm fomentations, 1; poultices, 11; cupping, 2; dusting the limb with sulphur, 2; plasters, 3; opposed to local measures, 1.

It is difficult, so says the editor, to tabulate the answers regarding diet and regimen, but his figures are as follows: Full diet, 18; simple diet, 17; stimulants, 15; opposed to stimulants, 14; a varied diet, 12; non-nitrogenous diet, 5; fatty food, 2; opposed to sour matters, 1. The American line of treatment inclines more to a generous diet with wine than does the European plan.

Omitting the answers to questions as to how far the treatment is modified by the constitution of the patient, and by age and sex, as to the methods of overcoming constipation and regarding the complication of syphilis, the answers to the treatment of paralysis after the pain is gone are full and instructive: 13 speak of galvanism, 10 of faradization, and 9 of electricity; of these 17 are in favor of the constant current, while 1 prefers the interrupted current. The next most general treatment is friction, 12; shampooing, 6; the douche, 4; and massage, 2. Rest is mentioned as necessary by 7. The result of the use of strychnine is mentioned by 8, while iodide of potassium is used by 1. Stimulating liniments are in favor with 3, and baths with 5, while flannel has one advocate; no less than four say they have never seen any subsequent paralysis, and one says he knows very little about it.

In answer to the query "Is electricity useful?" 23 reply "Yes," and 4 "No." Of the others, 8 have never tried it, 4 say they know little about it, 1 says he cannot say, and 1 is opposed to it. In 2 answers it is stated that its use should be confined to the later stages of the case.

Cod-liver oil is apparently in great favor, being in use with no less than 40, many of whom speak highly of it. A number, however, state that they only resort to it in strumous cases. Of the others, 8 say they rarely prescribe it, and 1 never tried it.

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Birmingham, England, is to have an aquarium which will cost $200,000.

RECENT PAPERS.

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Liebig's Annalen der Chemie. 185, 1.

J. Stenhouse and C. E. Groves: "On Picrorocellin." [The authors had received from a manufacturer of orseille a quantity of algæ, which differed from the usual species of Rocella, and possessed an intensely bitter taste. They were purchased from a Portuguese house, and were probably obtained from Western Africa. On analysis, the authors found in it a crystalline principle, picrorocellin, $C_{27}H_{29}N_3O_5$, which is the *first nitrogenous crystalline substance discovered in algæ.*

The medical properties of this bitter body, which is supposed to have anti-febrile properties, have only been partially investigated by Dr. T. Lauder Brunton, who found as chief characteristic that picrorocellin differed from quinia in *not* arresting oxidation. This was proved by Binz's method: If an ethereal solution of picrorocellin is mixed first with an alkaline solution of indigo-sulphate, then with blood and ozonized oil of turpentine, the formation of isatin * is not arrested, while quinia retards it very considerably.]

A. G. Ekstrand: "On Reten." [When tar is subjected to distillation, for the preparation of oil of tar, a viscid oil is left behind, which on cooling congeals to a granular mass, the so-called tar-tallow. Purified by soda and sulphuric acid it has nearly the same color and consistency as beef-tallow. This substance, which is used for making axle-grease, consists almost entirely of pure *reten*, $C_{18}H_{18}$, melting point 98.5° C.]

Neues Repertorium of Pharmacie. 11, 12.

Karl Heintz: "On the Effects of Muriate of Narceïna." [From this elaborate paper we quote the final results of the author: 1. Muriate of narceïne, when administered subcutaneously, acts about in the same dose as morphia, although not always as promptly. This activity probably depends much on the purity of the alkaloid, and on the proper preparation of the hypodermic solution. 2. Narceïne has some advantages over morphia, as it does not leave any disagreeable after-effects; but its narcotic effect lasts much longer, which is likewise an advantage. The salt is very little soluble in water, and for purposes of hypodermic injection a solution is best made as follows: 0.3 gm. of muriate of narceïne are mixed with 20 gm. of distilled water in a flask or test-tube; the latter is placed into a water-bath and heated until the salt is dissolved. If on cooling any of the salt should separate at a temperature exceeding 40° C., hydrochloric acid must be added to the solution, but not more than sufficient to produce a clear solution. On cooling, the mixture looks like curdled milk, and requires to be warmed before being used.]

Max Stumpf: "Researches on the Effects of Jaborandi." [The author's results are about the same as those obtained by Dr. Ad. Weber, which will be found in our January number, p. 13; but he differs from him in stating that jaborandi *lowers* the temperature of the body, and that it frequently causes *vomiting* (10 times in 27 cases).]

We learn with regret that the publication of this valuable journal closes with the present number, which concludes the 25th volume.

Pharmaceutical Journal and Transactions. 343-347.

Edw. Hirschsohn: "Comparative Examination of the more important commercial Varieties of Galbanum and Ammoniacum Gums. II. Ammoniacum." (See next number.)

Bentley: "The Admixture of White Hellebore with Valerian Root." [An English pharmacist had purchased some valerian root, part of which was used in form of infusion. This caused intense sickness in all who took it; the druggist sent a sample of the root to Prof. Bentley, who at once recognized the presence of a large quantity of the root of a species of Veratrum. The sale of this dangerous drug was stopped, and an examination of the remaining parcel proved it to contain 34 ounces of true valerian root and 8 ounces of white hellebore rhizoma.]

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* A product of the oxidation of indigo; indigo: C_8H_5NO; isatin: $C_8H_5NO_2$.

H. LENIER: "The Coloring Matter of the Petals of Rosa Gallica." [The author has examined the coloring matter of rose-petals, and finds it to be capable of forming crystalline compounds with alkalies.]

W. A. SHENSTONE: "Note on the Action of dilute Nitric Acid on Brucia." [The author confirms Mr. Cownley's results (see NEW REM., v., 174) as to the *non-conversion* of brucia into strychnia by means of nitric acid, which had been maintained by Sonnenschein.]

B. H. PAUL: "The Pharmacopœia Test of Quinia Sulphate." (See next number.)

B. H. PAUL: "Presence of Cinchonidia in the Quinia Sulphate of Commerce." (See next number.)

American Journal of Pharmacy.

February. JOHN M. MAISCH: "The Metrical System in Prescriptions." [Pointing out the errors committed by several late writers on this subject, showing among others that wherever the system is in use, for medical or pharmaceutical purposes, *weights* alone are used to the entire exclusion of *measures*. The paper contains some other important arguments in favor of the metric system, which we would call attention to.]

H. G. DEBRUNNER: "Wash-Blue and its Analysis." [The various pigments sold under this name consist of Prussian blue, or of starch impregnated with indigo or aniline-blue, although the latter are not very common. The mode of manufacture of the ordinary blue is to add to a solution of ferrous sulphate a solution of potassium ferrocyanide, and to treat the resulting white precipitate with a mixture of nitric and sulphuric acids.]

Pharmaceutische Centralhalle. No. 1-4.

HAGER: "Precaution in working with Hydrogen." [In the laboratory of a Berlin druggist some apprentices were engaged in filling bubbles with hydrogen. The somewhat large generator had not yet been sufficiently freed from air, before the gas was lighted. The consequence was a tremendous explosion, doing great damage to the laboratory and severely injuring one of the workmen.]

HAGER: "Cyclamin or Arthanatin." (See p. 70.)

HAGER: "Distinction between Benzine obtained from Coal, and Benzine from Petroleum." [The author reiterates the correctness of Push's observation on the behavior of iodine towards these two species of benzine. Iodine is soluble in coal-tar benzine and in American petroleum with *violet-red* color, and in petroleum-benzine with *raspberry* color; the violet-red tint in the case of the American petroleum is however preceded by a short appearance of raspberry color.]

Berichte der Deutschen Chem. Gesellschaft. No. 19.

C. LIEBERMANN and O. BURG: "On Brasilin." [The authors have examined the chemical relationship of *brasilin*, the coloring matter of the heart-wood of some species of Cæsalpinia, with *hæmatoxylin*, the coloring matter of Hæmatoxylon Campechianum. They found that brasilin has the composition $C_{16}H_{14}O_5$, differing from hæmatoxylin ($C_{16}H_{14}O_6$) only by one atom of oxygen. This close analogy makes it probable that one and the same body may form the basis of both substances.]

C. BULK: "A simple Separatory Funnel." (See next number.)

C. BULK: "A simple Suction and Pressure Pump." (See next number.)

AD. CLAUS: "Preparation of Pure Ricinoleic Acid." [This may be prepared by fractional precipitation of crude castor-oil soap (in solution) with calcium chloride. Solution of the last-named salt is added to a clear solution of the soap, until one-third of the fatty acids have been precipitated. The remaining portion of the solution is then precipitated separately and yields pure calcium ricinoleate, which is crystallized once or twice from alcohol, and from which the pure acid may be obtained by decomposition with dilute sulphuric acid.]

Journal de Pharmacie et de Chimie.

LEPAGE: "Sodium Santonate." (See next number.)

De Farmaceut. No. 16.

W. STOEDER: "On Calcium Phosphate." [The author has investigated the processes and their resulting products, for preparing precipitated calcium phosphate, as prescribed in the French, English, Dutch, German, Austrian, and Swiss pharmacopœias. He finds that the resulting product has a composition different from that heretofore accepted. The reputed formula of precipitated calcium phosphate is $Ca_3 2PO_4$, obtained by the following reaction:

$$CaH_4 2PO_4 + 2CaCl_2 + 4NH_4HO = Ca_3 2PO_4 + 4NH_4Cl + 4H_2O.$$

But the quantity of ammonia used for precipitation is, according to the author, generally deficient—about one-half, whence the reaction would proceed as follows:

$$CaH_4 2PO_4 + 2CaCl_2 + 2NH_4HO + 2H_2O = 2(CaHPO_4, 2H_2O) + 2NH_4Cl + CaCl_2,$$

and the resulting product, $CaHPO_4, 2H_2O$, would therefore be an acid salt.]

The Pharmacist.

February. R. ROTHER: "Some Officinal and Non-officinal Alcoholic Solutions." [The author criticises several officinal formulæ, among them *Spiritus Aetheris Compositus*, in which he pronounces the addition of ethereal oil as useless and recommends a mixture, resembling in ether strength that of the German Pharmacopœia, namely, of ether 1, water 1, and strong alcohol 2 measures. —— *Spiritus Chloroformi*. The author points out that the quantity of alcohol was raised in the last revision from 6 to 12 fl. oz., and as no mention of the change is made in the tables, he surmises that the "6" should have remained. He proposes to change the formula to either: chloroform 2, water 2, strong alcohol 5 volumes, or: chloroform 1, water 2, strong alcohol 5 volumes; the former would contain 2 vol. of chloroform in 9 of solution (2 : 9), the latter 1 vol. of chloroform in 8 of solution (1 : 8). —— *Spiritus Camphoræ*. The author proposes to reduce the strength of the alcohol by dissolving 16 troy ounces of camphor in stronger alcohol to 7 pints, and then adding 1 pint of water under constant agitation.]

Journal of the Chemical Society.

January. M. M. PATTISON MUIR: "On certain Bismuth Compounds." [The author has continued his researches on the compounds of bismuth—see NEW REMEDIES, v., 145—and has established the composition of several new ones, to one of which he assigns the formula $Bi_{11}Br_7O_{12}$ or bismuthyl oxybromide; to another the formula $2BiBr_3 5NH_3$, an ammonio-bromide of bismuth.]

E. JACQUEMIN: "Rhodeïne, a new Test for Aniline" (from *Comptes Rend.*). [The sensitiveness of the well-known reaction of aniline with hypochlorites is such that 1 part in 10,000 may be detected. With a greater dilution hypochlorites give only a very slight brown tint, if they produce any visible effects at all. But the author has found that the further addition to the brown or colorless solution of a few drops of a very dilute solution of ammonium sulphide (1 drop in 30 c.c. of water) develops a magnificent rose color, by which so small a proportion as 1 part of aniline in 250,000 may be recognized. This new color, which is very fugitive and disappears immediately if an excess of sulphide be added, the author proposes to designate as *rhodeïne*. He did not obtain similar results with oxidizing or reducing agents other than those above named, nor did toluidine, etc., produce any such effects.]

Droguisten-Zeitung.

X. LANDERER: "On Trachana." [An excellent article of food, bearing this name in the Orient, is prepared by boiling one part of best coarsely ground wheat with two parts of fresh goat's or sheep's milk, rapidly evaporating to a thick consistence, and drying the residue. This is called "*sweet trachana*." Should the mass, as it sometimes happens, turn sour, it is not rejected, but still used under the name of "*sour trachana*." Many families prepare it in quantities and keep it for winter use: boiled with milk or bouillon it forms an exceedingly palatable and nourishing food.]

Répertoire de Pharmacie. No. 2, 3.

FORMULÆ and Preparation of certain new Remedies.

The Practitioner.

February. W. H. BROADBENT: "Warburg's Tincture." [In a somewhat rambling paper on the therapeutic effects of Warburg's tincture, the writer quotes two cases in which it was of great service. He believes that the occasion for the use of this medicine is found "in conditions in which there is no organic disease necessarily fatal, and no local inflammation adequate to the production of the symptoms, but the nervous system is overwhelmed by some poison, as in malignant remittants, or oppressed by pyrexia, or sinking under some depressing influence."]

THOMAS BUZZARD: "Sciatica." [Advises resort to moderate doses ($\frac{1}{30}$ to $\frac{1}{8}$ of a grain) of morphia hypodermically, flying blisters, and galvanism. Induction currents are more serviceable in muscular rheumatism, but aggravate neuralgia. In the latter the constant voltaic current is best.

F. LAUDER BRUNTON: "The Return on Sciatica." [See page 82.]

ARTHUR GAMGEE: "On the Curative Effects of Mild and Continued Counter-irritation of the Back in cases of General Nervous Debility and in certain Cases of Spinal Irritation." [See page 80.]

The Ohio Medical Recorder.

February. J. F. BALDWIN: "The Metric System in Prescriptions—The Other Side." [While admitting the simplicity and convenience of the method in many respects, the necessity for the remembrance, by the prescriber, of the variations in specific gravities of fluids in common use is cited as the main objection to the employment of the method; while, to avoid inexactness, the need for learning the doses and proportions of his remedies anew, is mentioned as another of the faults of the proposed change.]

British Medical Journal.

January 20.—DAVID FOULIS: "Treatment of Ringworm by Leaves of Cassia alata." [States that none of the remedies tried by him, for the cure of ringworm, during a residence several years ago in India, were as efficacious as the one resorted to by the natives, viz., rubbing the diseased part with the fresh leaves of "daod patta" or *Cassia alata;* the expressed juice being left to dry on the skin, which was stained a light brown color. The itching was immediately relieved, and in a day or two the skin assumed a healthy appearance. It has been stated that these leaves contain chrysophanic acid.]

HERBERT L. SNOW: "Podophyllin in Acute Rheumatism." [Three or four powders, each containing $\frac{1}{4}$ to $\frac{1}{2}$ grain, to be administered at intervals of 3 hours on alternate days, to be taken dry, with powdered sugar. Muriated tincture of iron or nitro-muriatic acid on alternate days. Acute cases, as a rule, recover in a week.]

January 27.—W. LEMON LANE: "Some Experiments with Nitrite of Amyl." [Experiments with kittens showed a number of facts, among which the most practical was the effect of the agent, when *inhaled in small quantities,* in producing recovery from chloroform narcosis and in producing a rise of temperature.]

EDWIN FAIRLAND: "Malignant Cholera. Treated by Nitrite of Amyl and Hydrate of Chloral." [The former given for fifty-six hours by inhalation and per os. Hydrate of chloral to the extent of 64 grains in 2-grain doses.]

VICTOR JAGIELSKY: "Treatment of 'Chronic Diarrhœa' by Koumiss." [The writer has been active in introducing this remedy into use in England, where it has proved valuable in affections attended by impaired nutrition, or exhaustion from disease.]

BALMANNO SQUIRE: "Treatment of Ringworm by Chrysophanic Acid." [Replies to the paper of Mr. Foulis, quoted above, and remarks concerning the composition of Goa powder, that it is not quite probable that it contains leaves of Cassia alata, the present knowledge of it indicating its source to be the medulla or pith of the stem of some kind of leguminous tree.]

February 3. "Cassia alata, Ringworm Goa Powder and Chrysophanic Acid." [A number of short communications on this subject may be found on page 134 of the above journal.]

EDITORIAL: "The Milk of Sulphur Question." II.

February 10. "Treatment of Ringworm by Goa Powder and by Perchloride of Iron." [Short notes from Drs. A. Hughes Bennet and James Dobbie.]

EDITORIAL: "The Relation of Alcohol to Medicine." [Based upon remarks made at a meeting lately held by the Church of England Temperance Society, in Oxford.]

Cincinnati Lancet and Observer.

February. A. PATTON: "Specific Methods in the Treatment and Investigation of Diseases." [A valedictory paper in which the writer reviews the various "systems," and expresses the opinion that absolute certainty in the treatment of diseases will ultimately be arrived at.]

Chicago Medical Journal and Examiner.

February. A. M. ELLIS: "Atropiæ Sulphas in Myringitis and Otitis." [In the treatment pursued by the writer, local depletion plays quite as prominent a part as the employment of atropia.]

FRANK ALPERT: "The Corn Sweat." [A primitive form of vapor-bath, which was resorted to for the production of profuse perspiration. "Have the apartment warm; boil fifteen ears of corn in a kettle. Warm five blankets and place them one above another on a bed. Put the patient, undressed, on the blankets and wrap two of them around him, not both at once, but one after the other. Quickly dry the boiling ears with a towel, place them all about the patient, and wrap the remaining three blankets one by one around him. Adults and older children should be kept in the sweat three-quarters of an hour; children from three to six years, half an hour. Remove the corn and uncover gradually, retaining the last blanket until the patient is dry.]

Atlanta Medical and Surgical Journal.

January. J. W. GRIGGS: "Hypodermic Use of Tincture of Veratrum Viride in Puerperal Eclampsia." [Reports 3 cases in which 2 to 3 drops of the tincture were used with $\frac{1}{8}$ to $\frac{1}{6}$ of a grain of morphia hypodermically, with good results.]

The Medical and Surgical Reporter. Vol. xxvii., No. 5.

A. F. SHELLY: "Digestine." [Gives a vague description of a remedy made first by himself and latterly by W. R. Warner & Co., to which he gives the above name, and which is probably nothing more nor less than pepsine derived from the gizzard of the domestic fowl.]

No. 8. ALFRED B. TAYLOR: "Fluid Weights in Prescriptions." [Attempts to point out that fluid medicines may be as easily prescribed and dispensed by weight as by volumes, after a tabulation of effective and maximum doses of the entire materia medica in units of weights; secondly, that mixtures so prepared may be administered with facility by familiar measures of volume; third, that in the event of the adoption of the metric system its notation can be made exceedingly simple and convenient; and fourthly, presents the advantages which would follow the adoption of medicine spoon and glasses graduated to the measures of capacity of the French system.]

T. M. MATTHEWS: "Muriated Tincture of Iron as a Specific for Erysipelas." [Endorses the experience and writings of Dr. Bell, of Edinburgh.]

Louisville Medical Times. No. 59.

DOUGLASS MORTON: "Notes on the Therapeutic Uses of the Extract of Malt." [Reports four cases:—Intestinal tuberculosis chronic bronchitis with asthma, dyspepsia with gastralgia, and flatulence and faulty nutrition connected with dysmenorrhœa. All had failure in power of digestion and inanition as prominent symptoms, and all were much benefited by malt extract.]

ORIGINAL COMMUNICATIONS.

NOTE ON THE SOLUBILITY OF CERTAIN KINDS OF QUININE PILLS.

Some months since I was called to see a medical gentleman who was suffering from an attack of gall-stone colic. He had had several previous attacks, in one of which I had myself seen him. Desiring to establish the diagnosis, I requested that the evacuations be examined for calculi. The following day a small object, having at first sight the appearance of a gall-stone, was handed me, with the inquiry if I thought it was such. On examination, however, it seemed to be a "compressed pill," discolored, but changed in form only slightly by the rounding off of its edges. Dissolved in acidulated water, the characteristic opalescence of a quinine solution was manifested. On the following day a second pill was found in a stool. These pills had been taken by the Doctor on Saturday, and were passed on Monday and Tuesday, and remained therefore in the alimentary canal, the one about two and the other three days, with almost no change in their form or size. Some pills of the same kind were obtained from the druggist who dispensed them, and I found that they almost immediately fell to pieces on being placed in water.

		5 m.	10 m.	15 m.	30 m.	45 m.	60 m.
1. Soluble pill. Quin. bi-sulph. Schieffelin.		Coating roughened.	Agitation dislodged surface of coating.	Pill not affected by pressure or agitation.	Surface yields somewhat to pressure.		By occasional agitation the pill dissolved (keeping its spherical form) totally at the end of an hour.
. Compressed pill. Bi-sulphate. Wyeth.	In two minutes fell into a pile of débris.	Partly dissolved. Reduced to a powder.	A uniform milky deposit, which on agitation made a uniform opalescent solution.				
3. Gelatine-coated. Bi-sulphate. McKesson & Robbins.		Coating roughened.	Agitation no effect.	Surface blistered, but agitation has no effect.	Can be broken up somewhat on pressure. Solution perfectly clear. Five minutes later, forcible pressure broke off many flocculi, which discolored the water.		The pill was finally broken up (by occasional agitation) in an hour and a half.

Sulphate of Quinia.—The pills were not agitated until after the expiration of thirty minutes.

		30 m.	45 m.	60 m.
4. Gelatine-coated. McKesson & Robbins.	No change except roughening of the coating.	Agitation; liquid perfectly clear.	A few flocculi.	Liquid clear. Broke up completely in two hours.
5. Soluble pill. Q. S. Schieffelin.	No change except roughening of the coating.	Flocculi dislodged. Agitation every few minutes.		Liquid cloudy. Broke up completely after two hours and a quarter.
6. Pil. quin. sulph. Sugar-coated. Warner.	In a minute the coating began to dissolve, and was completely dissolved in five or six minutes.	Water milky from sugar-coating.	Surface crumbling.	Surface crumbles, leaving liquid opaque. Broke up completely after an hour and a half.

Within a few days after this occurrence, several canvassing agents for drug houses brought me specimens of their quinine pills, with the request that I should test their relative solubility.

The memoranda below are of two trials with pills of the bi-sulphate and the sulphate of quinine. I made a number of other trials, essentially the same in character, and with almost identical results.

Into a number of labelled phials were placed specimens of the various pills; the bottles were filled with water at 100° F., and kept at that temperature by means of a water-bath. The pills were all of two-grain size, and, with the exception of Warner's sugar-coated pills, were furnished by the agents of the respective manufacturing houses.

I observed in these experiments (and in a number of others, the details of which I do not take the space to note here) that the compressed pill uniformly crumbled at once, and in the case of the bi-sulphate speedily made a solution, in which the naked eye could detect no particles, although it was strongly opalescent. The slow breaking up of the gelatine-coated pill was probably due to its coat; for, once this was broken, the mass seemed to yield more rapidly than did that of the "soluble" and the "sugar-coated" pill, the coats of which were not so tough as the gelatine.

I also submitted the pills numbered 2, 3, 5, and 6 to the action of an acidulated solution of pepsin (pepsin 15 grs., ac. muriat. 5 minims, water 2 ounces), at a temperature of 100° F. and kept the vessel continually but gently agitated. In our experiment, pill No. 2, crumbled as in water but not so quickly, several minutes being required. In another it gradually dissolved and had disappeared at the end of 72 minutes. Nos. 5 and 6 gradually dissolved and were not recognizable after 30 minutes. The coat of No. 3 burst after twenty minutes and the mass gradually dissolved, the last fragments being recognizable 50 minutes after the beginning of the experiment, the delay, as before, being probably attributable to the coat and not to the quality of the pill mass.

But the most interesting point to the practitioner is this, that the pill which in water never fails to immediately break up was the very one that, in the case quoted, remained in the alimentary canal two and three days unchanged. Such accidents are often construed as indicating an unusually hard or tenacious or ancient pill mass. I think, however, they are quite as often due to the condition of the alimentary canal itself. A therapeutic maxim, formerly much more observed than at present, was to preface the administration of quinine by a cathartic, particularly if there was much disturbance of the digestive tract. The value of this maxim I practically learned very soon after I commenced the practice of medicine, and I presume it a common experience to find that the desired effects of quinine are sometimes obtained after a cathartic when they had been sought in vain before its administration. The case that has served as a text for these remarks would seem to suggest that often in the "bilious" remittents and kindred disorders the remedy may be absolutely unabsorbed, no matter how freely administered by the stomach. If the urgency of the case does not permit the delay necessary to the prefatory treatment, the hypodermic method would seem to be the natural indication.

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CHRYSOPHANIC ACID OINTMENT.

THE uses and properties of goa powder, or araroba, have been repeatedly discussed in the pharmaceutical and medical journals of the past year, and we may therefore content ourselves with referring to pages 105, 135, and 356 of our last volume. Mr. Balmanno Squire, Surgeon to the British Hospital for Diseases of the Skin, has employed this remedy as an application in various cutaneous affections, and has come to the conclusion that chrysophanic acid, which is the chief ingredient, is also the active agent of the substance. The favorite mode of applying it in the tropics seems to be, to wet the powder with water, or with vinegar or lemon-juice, and to smear the thin paste thus produced on the affected skin. But this paste dries up very speedily into its original condition of fine dry powder, which is easily rubbed off by the slightest touch. According to Mr. Squire, an ointment is unquestionably a much better form of applying the remedy. This form seems occasionally to have been had recourse to; but wetting the powder and smearing on the paste is obviously the orthodox custom. As an ointment should be perfectly smooth and uniform, especial care was taken to obtain this end, and for this purpose advantage was taken of the solubility of chrysophanic acid in hot benzole, which is also capable of dissolving lard. Two drachms of chrysophanic acid and an ounce of lard were dissolved in the smallest necessary quantity of boiling benzole, applying heat by a water-bath. Then as the brown solution cooled (the vessel containing it being placed in cold water), and the chrysophanic acid, much less soluble in cold than in hot benzole (*Attfield*), became rapidly deposited, the mixture was briskly stirred in an evaporating basin. As the mixture speedily became "set," a most perfect ointment was produced in a very ready manner. After leaving the ointment spread about the dish for a short time, the benzole almost completely evaporated from it, leaving it quite hard, and giving it the appearance of being stained, or some sort of soft yellowish wax. The smell of benzole adheres to the ointment for some time, but finally is lost or may be concealed by some essential oil.

Mr. Squire finds that the properties of chrysophanic acid are by no means confined to its being a remedy for ringworm, but that it is likely to prove a valuable addition to the list of drugs as a remedy for other non-parasitic skin diseases. He has obtained unquestionably good results with it in the treatment of psoriasis, and it is a serviceable application in cases of lupus. He adds that particular care must be taken in the preparation of the ointment if it is to turn out such as described above. In the first place, the acid must be thoroughly dissolved in the hot benzole, and in the next place, the cooling and evaporation of the benzole must be conducted as rapidly as possible. With this view the process of dissolving may be conducted in a small glass beaker placed in a water-bath, and when solution of the acid and the lard has been perfectly accomplished, the solution should be promptly turned out into a cold evaporating dish, placed in cold water, and immediately briskly stirred with a glass rod until the solution has become fully and firmly "set."—(*Pharm. Journ. and Trans.*, Dec. 16, 1876.)

In a subsequent number of the same journal, we find a communication by Dr. H. R. Crocker, who states that he used chrysophanic acid ointment some nine months previously in the treatment of ringworm. The acid was prepared by Mr. A. W. Gerrard, and was employed in the form of a concentrated solution in benzole, which retains about ten grains to the fluid ounce when cold, as well as in the form of ointment, made with ten to forty grains of the acid to the ounce of lard. The results of his experiments, which were limited to parasitic diseases, led him to consider chrysophanic acid as by no means deserving of unqualified praise. Mr. Gerrard, in the same paper, adds the statement that vaseline is a much better solvent of the acid than ordinary fats, and that the use of benzole in the preparation of the ointment is not at all necessary. Hot fats or oils, indeed, appear to dissolve chrysophanic acid in almost all proportions, but, on cooling, a good deal of it separates again, and it is necessary to rub it assiduously during the cooling, in order to obtain a smooth mass. The same experience was made by Mr. A. W. Postans, who recommends the addition of a few drops of otto of roses to disguise the peculiar odor, and who furthermore states that Dr. Ashburton Thompson has pushed the matter even further, by administering goa powder and chrysophanic acid to his patients internally as well as externally.[*]

The botanical source of goa powder is expected, according to Mr. Postans, to be determined by means of a specimen-plant growing at present in the Royal Botanic Gardens, Edinburgh, and supposed to be the source of the drug. See *Pharm. Journ. and Trans.*, Dec. 23, 30, 1876, Jan. 6, 1877.

BIBLIOGRAPHY.

PROCEEDINGS OF THE AMERICAN PHARMACEUTICAL ASSOCIATION at the Twenty-fourth Annual Meeting, held in Philadelphia, Pa., September, 1876. Also the Constitution, By-laws, and Roll of Members. Published by the Association. 8vo, pp. 909.

No publication of the Association has done it such credit as this one. From cover to cover it is filled with the results of work which shows that American Pharmacy need take no second rank as compared with the profession in other countries.

The report of C. Lewis Diehl, on the Progress of Pharmacy, alone occupies over 240 pages, and that of the Committee on the Centennial Exhibition more than 120. There are thirty-four special and volunteer reports, occupying, in the aggregate, 128 pages, and the balance of the reports, minutes, etc., are correspondingly comprehensive. We give our readers some of these papers with the present number, and shall have occasion to refer again to the matter of the volume.

The volume is embellished with a steel portrait of the late John Milhau. If the cost of the Transactions, which since 1851 has steadily increased from 25 cents to $7,00, continues to augment in the same ratio, we shall soon expect to purchase, each year, a whole library.

THE TONIC TREATMENT OF SYPHILIS. By E. L. KEYES, A.M., M.D. New York: D. Appleton & Co. 1877. 8vo, pp. 83.

THIS is a development of the article by Dr. Keyes which appeared in the *Amer. Journal of Medical Sciences*, upon the influence of small doses of mercury in increasing the blood corpuscles, and embraces three chapters, as follows: I. On the General Treatment of Syphilis, in which the tonic effect of mercury, when given in small doses, is discussed. II. Details of General Treatment, in which the use of mercury in various ways, iodine, tonics, Zittman's decoction, syphilization, hot springs of Arkansas, and other means used in general treatment, are embraced. III. The Local Treatment of Syphilis and the Especial Means adapted to Special Lesions.

The book is very interesting, and without doubt will, from the nature of the views expressed, attract a great deal of attention. The opportunities which the author has had in the Venereal Service of the Charity Hospital, has afforded him an abundance of material whereby to establish the truth of what he teaches, and whoever has read Dr. Keyes' writings knows sufficiently well that he has the faculty of saying clearly what he means.

THE PRACTITIONER'S HANDBOOK OF TREATMENT: Or, The Principles of Therapeutics, by J. MILNER FOTHERGILL, M.D., etc. Philadelphia: Henry C. Lea. 1877. 8vo, pp. 569.

THIS appears to be decidedly one of the most valuable books of the season. Without attempting in any way to make it a treatise on the practice of physic, the whole effort of the author has been to elucidate the mode of action of therapeutical measures and agents. The physiology and pathology of the several conditions are entered into only so far as is essential to an intelligent use of the remedies for them, and the discussion of the actions of the various remedies is based more upon their effects when used in disease, than as shown in the physiological laboratory. We feel that the superficial survey which we have made of it does not fit us to do the book the justice it deserves, or point out the faults that may exist, and we defer until another occasion any detailed criticism.

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[*] Dr. H. G. Piffard, of New York, has used goa powder as well as chrysophanic acid for some time past, several months previous to the publication of Mr. Squire's paper. We shall give some of our experiences in the preparation of the acid in one of our next issues.—ED. N. R.

A TEXT-BOOK IN PHYSIOLOGY. By M. FOSTER, M.A., M.D., F.R.S., Prælector of Physiology and Fellow of Trinity College, Cambridge. London: Macmillan & Co., 1877. 8vo, pp. 559.

THIS is in many ways a marked departure from the usual run of text-books upon this subject. Of late the tendency has been towards elaboration, and the degree to which this is carried seems to correspond to the number of editions through which a book has gone. Dr. Foster, however, declares that he has "made no attempt to give a comprehensive account of all the statements, conflicting or accordant," which, we may add, are often much more likely to confuse the student than facilitate his acquiring a knowledge of the subject. He says: "I have rather striven to explain, in as clear and straightforward a manner as I could, the main facts and fundamental principles of physiological science. The student before whom things both new and old are tumbled out of the physiological treasury, without adequate critical appreciation of their respective values, is simply bewildered instead of being taught; and, finding that the labors of the Physiological Laboratory at Hirsauf seem to be chiefly directed to contradicting the results of the Laboratory at Hirsab, very naturally concludes that he had better pay attention to neither.

The author adopts the presumption that the student has already made himself somewhat familiar with anatomy and chemistry, though for the sake of convenience an appendix contains the characters and reactions of the chief chemical substances.

He gives neither figures nor elaborate descriptions of physiological instruments and apparatus. "These," he says, "must be seen, not read about."

Many of the features mentioned above render the book quite as serviceable to the general practitioner, for whom nice distinctions are not likely to be of much practical value. The divisions which the author makes and the order of arrangement, also differ from most other treatises or text-books on the same subject, and from first to last show evidences that the writer is independent in his ways of thinking, and has followed no model in the construction of his book. A feature which we are always pleased to see in works for the use of students is the large number of references to detailed writings, which enable such as desire to do so, to enlarge the circle of their information with less labor than such an attempt usually involves.

The general appearance of the book is such as we always expect to see in the publications of this house. Good paper, large and clear-faced type, careful reading and handsome binding, contribute to make it attractive.

PRINCIPLES OF HUMAN PHYSIOLOGY. By WILLIAM B. CARPENTER, M.D., F.R.S., F.L.S., etc. Edited by HENRY POWER, M.B., F.R.C.S. A New American, from the Eighth Revised and Enlarged English Edition, with Notes and Additions by FRANCIS G. SMITH, M.D., etc. Philadelphia: Henry C. Lea. 1876. 8vo, pp. 1083.

THIS has always and deservedly been a favorite work. Although rather voluminous for the student, it has nevertheless been so clearly written, comprehensively arranged, and thoroughly revised, that in spite of the number of good works on this branch which have appeared since it has gained its reputation, this one of Dr. Carpenter's is still an authority. In editing this eighth edition Dr. Power's labors have not been light. In the sections relating to the blood and its vessels, the liver, kidneys, and nervous system, the recent observations have been clearly described, and a number of illustrations have necessarily been added. For example: "The observations of Brozeit and Steinberg on the quantity of the blood; of Gamgee, on its specific gravity; of Jacobsen, Bernhardt, Albert, Stricker, Körner, and Heidenhain, on its temperature; of Paquelin and Joly, on its coloring matters; of Mathieu and D'Urbain, and of Estor and St. Pierre, on its gases; of Richardson and Brücke, on the structure of the red corpuscles; of Malassez, on their number; and of Foster and Balfour, on the mode of their development; of Klein, on the structure and movements of the white corpuscles; of Binz and Geltowsky, on the action of reagents on them; and of Hoppe-Seyler, on their composition; of Obermeier, Lewis, Nepreau, Lostorfer, and others on spores, germs, and entozoa in the blood, have been given under their appropriate headings."

The list of those who have recorded observations in other departments is proportionately as great.

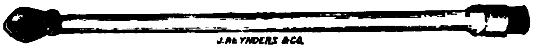
The amount of space devoted to comparative physiology is still considerable, and in some places the tendency to enter into the discussion of vital actions which lay within the limits of pathology is likewise apparent. However, for the student who desires to gain a comprehensive knowledge of the subject, a text-book of this sort is never too complete. It was the first one we studied, and even now there are few which equal it.

AMERICAN VETERINARY REVIEW. Published by the United States Veterinary Medical Association. A. LIAUTARD, V.S., M.D., Editor. A. LOCKHART, M.R.C.V.-S.L., Assistant Editor.

THE first number of this journal appeared in January, and contains the following interesting papers: "History and Progress of Veterinary Medicine in the United States," by Professor Liautard; "Zymotic Diseases," by Professor James Law; "Use of Stimulants in Diseases," by A. A. Holcombe, M.D.V.S.; "On Chronic Lameness of Horses' Feet," by Tho. Very, V.S.; "A Case of Erysipelatous Cellulitis," by E. T. Thayer, M.D., V.S.; and "Contagious Diseases in Cattle: The Measures Necessary for Preventing their Introduction into the United States and Canada," by Prof. J. McEachran.

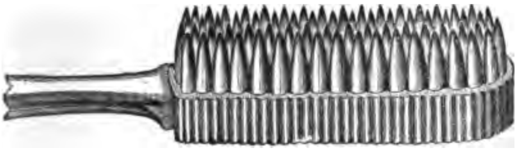
PHARMACEUTICAL SUNDRIES AND NEW INSTRUMENTS.

Doctor Holden's Resonator.



IN a recent number of the *Medical Record* Dr. Edgar Holden, of New Jersey, described a new aid in physical diagnosis, which he terms a "*resonator*." The instrument consists of a soft rubber tube with end pieces. The tube is one-sixteenth of an inch in thickness; internal diameter one-half inch; length seventeen and three-quarters inches. Distal end-piece of thin brass, three-quarters of an inch in internal diameter, one-fortieth of an inch in thickness, and one and a half inches long. Proximal end-piece (mouth-piece) of wood or metal. Same external diameter, and same internal *at its extremities*, but narrowed in its middle to five-sixteenths of an inch, and one and seven-eighths inches long. The mouth-piece of a trumpet would doubtless be better." A rushing noise is produced at the extremity of the tube when one makes forced inspiration or expiration through it. "If the patient be made to respire through the tube, the ear of the physician being applied to the chest, and particularly in the supra-scapular space, this rushing sound is transmitted with clear, resonant volume. Disease, however slight, exaggerates the sound, alters the pitch, or changes it in proportion to the solidity of the conducting tissues." It is recommended to hold the free end away from the examiner so as to avoid distracting the attention, and to close the free ear with the hand. "A singularly magnified character is given to the respiratory murmurs, and the stethoscope is unnecessary. It intensifies the sounds of vesicular dilatation, whether in a normal or morbid state. It intensifies the tubular sounds which, to the unassisted ear, are sometimes partially drowned by the neighboring healthy murmurs, and it exaggerates to painful hoarseness the evidences of air in cavities."

"Marvelous" Tooth-Brush.



This peculiar tooth-brush (for the sale of which Mr. Theo. Ricksecker is agent) is composed of a number of soft rubber cones attached by thin vases to an india-rubber body, and having incorporated with the material some sort of dentifrice, which renders the use of tooth-powder unnecessary. Another advantage is the freedom from loose bristles, and the risk of the latter becoming wedged between the teeth. We would suppose that this brush would be just the thing for Mohammedan countries, where the religious prejudices of the people lead the dealers to swear that brushes made of pigs' bristles in England have been manufactured under their immediate supervision from the hair of the camel. But the correspondent of an English Trade Journal says that the moslem dealers could not be induced to forego such a chance for telling a square lie in the course of a trade.

French's Spongoid Capsicum Drafts.

SAID by the proprietor, John M. French, to be superior to mustard leaves or plasters because they never blister, have no stickiness, and leave no discoloration of the skin. They are also said to be capable of being reapplied several times.

The capsicum is incorporated with a spongy material like paper, and are used by first moistening with water, and fastening into the part when counter-irritation is desirable.

Theod. Ricksecker, of 146–148 William Street, is the sole wholesale agent.

"Combination Lock" Bottle.

THIS is just the thing for dwellers in hotels and boarding-houses, where cologne and liquors appear to be considered by servants to be public property. L. M. Ballard, the patentee, of 14 Warren Street (P. O. Box 2115), will send one of them, securely packed, anywhere within 1,500 miles of New York, charges paid, on the receipt of $2.50. The lock consists of three rings, one above the other, with letters of the alphabet on the outer edges. When the rings are rotated so that notches on their inner edges come opposite a proper point on the neck of the bottle, the silver-plated cap can be taken off, and the glass stopper is uncovered and removable. A person who does not know the letter-combination might spend hours in fruitless efforts to open it.

Antiseptic Dressings.

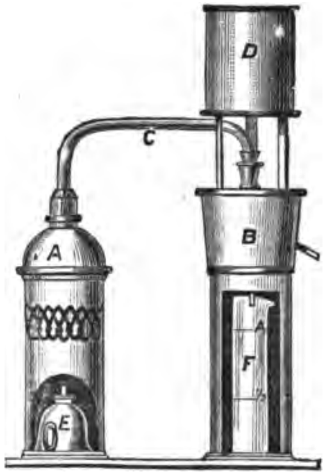
MR. CHARLES AM ENDE, 268 Washington St., Hoboken, N. J., sent us, some time since for trial, samples of cotton charged with antiseptic and astringent materials, which we have tried in practice and find to be very satisfactory.

Two samples contained boracic acid only; one having been charged with a 15 per cent. and the other with a 50 per cent solution. A third contained 50 per cent. of boracic acid with 20 per cent. of alum. The latter we have made the most use of; employing it as a tampon in the treatment of catarrhal affections of the uterus and vagina, after first wetting it with glycerine. The well-known offensive odor of the tampon was by no means so strongly marked after its removal, and its value as a therapeutic agent was quite decided. The varieties of cotton first mentioned are calculated for the antiseptic dressing of injuries and open wounds.

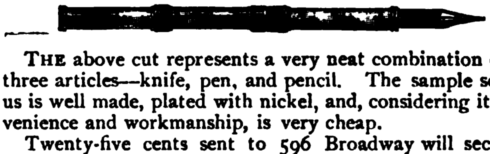
Another form of dressing is an antiseptic gauze for surgeon's use. This we have yet had no opportunity to try practically, but its general appearance, as compared with similar materials, is very good. All show evidences of having been prepared with care.

Weinhagen's "Monitor" Still.

MR. H. WEINHAGEN, of 152 William St., has made a miniature still for determining the percentage of alcohol contained in cider, wine, beer, vinegar, etc., the construction of which is explained by the above engraving. A is a boiler, B the cooler with worm, C the connecting pipe, D the reservoir for cold water, E the alcohol lamp, and F the glass for receiving and measuring the distillate. All the principal parts are of copper lined with tin. A small wineglassful of the fluid to be examined is sufficient, and it requires only ten or fifteen minutes to distill enough for testing. Mr. Weinhagen also makes an apparatus of somewhat larger size, which will prove serviceable to the retail druggist in recovering alcohol in pharmaceutical operations. The cost of the one here described is $10.



Johnson's New Combination Pen and Pencil Case.

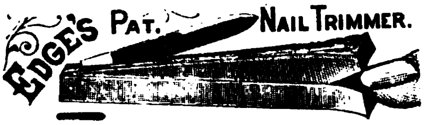


THE above cut represents a very neat combination of the three articles—knife, pen, and pencil. The sample sent to us is well made, plated with nickel, and, considering its convenience and workmanship, is very cheap.

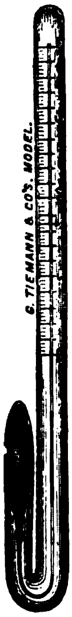
Twenty-five cents sent to 596 Broadway will secure a sample by mail, and the dozen or gross can be had for $1.75 and $19.00 Gold-plated ones can also be had for $1.00 and larger quantities in proportion.

Protagon.

MR. ALBERT C. DUNG, 61 Bowery, New York, informs us that he has on hand protagon, from the brain of the cow, recommended by Charles G. Polk, M.D. (NEW REMEDIES, Nov., 1876, page 344), and will be happy to fill orders. For cost see Prices Current.


EDGE'S PAT. NAIL TRIMMER.

THIS is a new thing to tempt the one who has a liking for novelties, and consists of a knife, the handle of which is made to terminate in a sort of cutting nipper for the purpose of trimming the finger-nails. The handle itself is of white metal, while the cutting edges are of steel. Its novelty appears to us to be its greatest recommendation, but we may be old-fogyish in our preference for a simple knife-blade. Any one who may like to see a sample can obtain it by addressing W. C. Edge, 5 Maiden Lane, New York, and enclosing 50 cents.


G. TIEMANN & CO'S. MODEL.

Tiemann & Co.'s New Thermometer.

GEO. TIEMANN & Co., 67 Chatham St., New York, inventors and manufacturers of the thermometer represented above, claim for it:

1. The registering portion or index cannot be united with the main column of mercury in the bulb except by design. The device of the "bend" fulfils the object of guarding against accidental loss of index.

2. The scale is graduated in ¼°, and is identical in every respect with that of a *four*-inch thermometer, whereas the bent thermometer is less than 3¼ inches in length.

3. The portion of the thermometer intervening between the bulb and the commencement of the scale lies in juxtaposition to the bulb, and the ascending mercury is therefore subjected to the warmth of the parts as well as the bulb, and is not exposed to external temperature.

4. It will not roll. The advantage of this latter feature will be readily recognized and appreciated.

The thermometers are safely carried in a neat morocco case (lancet case style), lined with velvet, and can be conveniently placed in the vest pocket, being but 3⅜ inches in length, and but ¼ inch wide; price $3.50.

NOTES, QUERIES AND ANSWERS.

[*Under this heading we shall, to the best of our ability, endeavor to answer such questions addressed to us as come within the scope of this journal, providing they are accompanied by the name and address of the writer. Answers to queries received after the 5th of the month will lie over until the next issue.*]

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Gokhru or Gocrow (F. R. S., New York).—This is a contracted form for Gokeroo, the Hindustani term for *Pedalium Murex* L., also called Ghanti-gura, a plant belonging to the Sesam family, and growing in many parts of the Madras Presidency, especially near the sea. The fresh leaves and stems, briskly agitated in cold water, speedily convert it into a thick mucilage, nearly of the consistence of the white of a raw egg, inodorous and tasteless. An infusion, thus prepared, is a highly prized remedy amongst the people of Southern India, in gonorrhœa and dysuria. Dr. Ives, Dr Waring and Dr. Thomas of the Indian service all testify to the power of this mucilage to cure gonorrhœa without any other remedy. Water, thus rendered mucilaginous, soon returns to its original fluidity, and it therefore requires to be freshly prepared each time before its exhibition. This circumstance, as well as the statement that only the *fresh* leaves and stems are suitable, will probably prevent their employment in this country, unless the plant can be cultivated. We are not aware that any has been brought to this country.

Barber's Wax (Indianapolis, Ind.)—A good formula for preparing this cosmetic is the following: Mix 1 part of best lamp-black and 8 parts of brown ochre under constant stirring with a melted mixture of 40 parts of yellow wax, 30 parts of lard, and 1 part of oil of bergamot; then pour it into moulds of about the thickness of a finger, and cover with foil. Another formula is the following: Yellow or white wax 90 parts, sweet almond oil 30 parts; melt them, and while stirring add powdered Venetian soap 100 parts, powdered gum arabic 90 parts, glycerine 10 parts, rose-water 140 parts or a sufficient quantity, oil of rose 1 part, and oil of lemons 2 parts. Pour the mass into moulds. The so-called "Hungarian Wax" is jet-black, and of about the composition of the first-mentioned formula.

Calcium Sulphocarbolate (Same).—This salt, which is also called Sulphophenate or Phenolsulphate, may be prepared as follows: Take 188 parts of pure carbolic acid, and 607 parts of sulphuric acid, 79 per cent. Melt the carbolic acid, add to it the sulphuric acid in small portions, and let it stand in a warm place till all smell of carbolic acid has disappeared. Dilute the liquid with 8 times its bulk of water, and add precipitated calcium carbonate until the liquid is saturated. Filter from the precipitated calcium sulphate, and evaporate the filtrate, which contains calcium sulphocarbolate, either to obtain crystalline crusts, or to dryness.

French Blacking (A Brooklynite).—Try the following: Best bone-black, in very fine powder, 750 parts, olive oil 500 parts; mix and heat them together; then add Prussian blue 30 parts, shellac 30 parts, muriatic acid 250 parts, and molasses 1,000 parts; after these have been thoroughly incorporated, add gum arabic 125 parts previously made into a thick mucilage with water. A liquid blacking may be made from this, by dissolving a quantity of it in beer or wine.

Coal-Tar and its Products (G. & R., Navarre, O.)—We recommend to you the following books:

Reimann, M., Aniline and its Derivatives. 8vo. N. Y. 1868.

Beckers, Anilinfärberei, 4th ed. 8vo. Berlin. 1871. 2 vols.

Bolley, Handbuch der chemischen Technologie. Vol. 5th. 8vo. Braunschw. 1870.

Wagner, Jahresbericht über die Fortschritte der chemischen Technologie. 8vo. 1868 to 1876.

Muspratt's Chemistry, new edition.

Red and Blue Ink for Stamping Purposes.

Red: Dissolve ¼ oz. of carmine in 2 oz. of strong water of ammonia, and add 1 drachm of glycerine and ¼ oz. of dextrine.

Blue: Rub 1 oz. of Prussian blue with enough water to make a perfectly smooth paste; then add 1 oz. of dextrine, incorporate it well, and finally add sufficient water to bring it to the proper consistence.

Acid Calcium Chromate (soluble). (E. E. U. Butler, Pa.)—Two calcium chromates are known: 1. $CaCrO_4$, $2H_2O$, neutral calcium chromate, is prepared by dissolving calcium carbonate in dilute chromic acid, and evaporating the solution. It forms yellow columnar crystals, which lose their water at 200° C., turn dark brick-red on heating, returning to yellow on cooling. They are soluble at 14° C. in 241.3 parts of water, insoluble in alcohol. The anhydrous salt, which is almost insoluble, is used as a pigment. 2. $CaCr_2O_7, 3H_2O$, acid calcium chromate, is obtained by dissolving the neutral salt just described in aqueous chromic acid, and evaporating the solution. It forms red deliquescent crystals. For its price, see our Prices Current.

Baking Powder (C. G. T., Chester, Pa.)—This is usually made by mixing three parts of dry sodium bicarbonate with three parts of farina, and intimately incorporating with it two parts of dry tartaric acid. The mixture must be put up and kept in air-tight cans or boxes, and must be well protected from moisture, as this would cause the acid to react upon the bicarbonate.

While we are quite willing, and ready at any time to examine medicinal substances for impurities or adulterations, provided samples are sent to us, it can manifestly not be expected of us to make analyses of commercial articles for the benefit of a few, especially if we should have to purchase the samples ourselves. *Sapienti sat!*

Elixir of Pancreatine (Capsicum, Springfield, Ill.)—Mr. R. V. Mattison has proposed the following formula: Take 6 pancreas, cut them into pieces and macerate them for three days in a mixture of water 12 pints, hydrochloric acid 4 fl. oz. and glycerine 2½ pints; then separate the liquid by straining, add 2½ fl. drachms of oil of orange, and enough glycerine to make the liquor measure 20 pints; it is then filtered, and forms a sweet acidulous liquid, one fluid drachm of which will readily emulsify half a fluid ounce of cod-liver oil. (See *Am. Journ. Pharm.*, 1873, page 533.)

Elixir of Pancreatine and Pepsine (Same).—This may be made by dissolving in each pint of elixir of pancreatine 256 grains of saccharated pepsine.

Ferrated Cod-Liver Oil (R. G., Guttenberg, Iowa).—If you do not wish to prepare this by the intervention of ferric soap, you may triturate one part of benzoate of iron (ferric benzoate) with pale cod-liver oil, until 100 parts of the latter have been added, agitating the mixture occasionally during several days, and filtering. The clear filtrate is of a yellowish-brown color, and contains nearly 1 per cent. of ferric benzoate. This latter salt must have been prepared from natural benzoic acid—made from gum benzoin—as the artificial acid which is made from horses' or cows' urine, imparts to the oil a disagreeable flavor. The above-given formula has been made officinal in the Swiss Pharmacopœia

A formula for preparing a solution of ferrous iodide in cod-liver oil will be found in this Journal, vol. v., p. 237.

Test for Sugar in the Urine (Same).—The best and readiest test is Fehling's modification of Trommer's test, commonly known as Fehling's test. The solution is prepared as follows: 90.5 grains of pure cupric sulphate are dissolved in 1½ fl. oz. of distilled water; 364 grains of pure neutral potassium tartrate, or of pure Rochelle salts, are dissolved in 4 fl. oz. of solution of soda, spec. grav. 1.120. The copper solution is gradually poured into the alkaline solution, and the bulk of the mixture made up to 6 fl. oz. with water. If the solution is intended for quantitative use, it must be made with greater precision, directions for which will be found in our last volume (v., p. 93). In searching for sugar in urine, it is necessary first to ascertain the absence of albumen. Boil a little of the urine (which must not be alkaline) in a test-tube, heating only the upper portion of liquid; if cloudiness sets in, carefully add one or two drops of nitric acid, which will fail to dissolve the cloud, if albumen is present. Should this test leave any doubt as to the presence or absence of albumen, take a fresh sample of urine, add acetic acid to strongly acid reaction, and then a few drops of solution of potassium ferrocyanide. Even traces of albumen are indicated in this manner by the formation of a white flocculent precipitate. The albumen having then been removed by boiling the original urine acidulated with a few drops of nitric acid, the clear filtrate is made faintly alkaline with soda, and is now ready for being tested. Into a 6 inch test-tube pour about 1 fl. drachm of Fehling's solution, dilute with about 6 parts of water, and heat to boiling; the test-liquid must remain *perfectly clear*, brilliant, and of a pure blue color. Should it be at all cloudy or discolored, this is owing to changes produced by long keeping, and it must be rejected. If, however, it has remained unaltered, heat it once more to boiling, remove from the flame, and pour down the inner side of the tube a small quantity, say ½ to 1 fl. drachm, of the suspected urine. *Do not shake*, but wait. After a few moments a yellowish streak will appear in the liquid, rapidly changing to *brick-red*, and coloring the whole solution orange, or brick-red, if sugar was present. Should no change be visible after five minutes, heat once more to boiling, and, if still unaltered, *add to the boiling hot liquid a trace of pure sugar of milk, or of pure glucose*, which should immediately produce a reduction to red cuprous oxide. The object of this latter proceeding, which we are in the habit of using, is to convince ourselves, that *the test-liquid would have been capable of showing sugar in the urine, if any had been present.* We have several times failed to get a reaction with this supplementary test, after having failed with urine; and on using a fresh test-liquid we discovered the urine to contain sugar.

The best works on the Examination of Urine, chemical, pathological and microscopical, are:

NEUBAUER (Dr. C.) and VOGEL (Dr. J.) Anleitung zur Qualitativen und Quantitativen Analyse des Harns. Für Mediciner, Chemiker und Pharmaceuten. 8vo. Wiesbaden, 1876. Pp. 436. Price, about $4.00 gold.

PIFFARD (Dr. H. G.) A Guide to Urinary Analysis. 8vo. N. Y., 1875. $1.25.

BIRD (Golding). Urinary Deposits; their Diagnosis, Pathological and Therapeutical Indications. 5th edition. By E. L. Birkett, M.D. Pp. 494. 12mo. London, 1857. $5.25.

Hamburg Tropfen (Dr. Kœnig's.) (Same).—This is a modification of the so-called Elixir of Life, and contains aloes, rhubarb, white agaric, saffron and zedoary or galangal. We are not able to give you the exact formula.

Rosanoff's Crystals. (P. van H.)—These are crystals found adhering to the cell-walls of the fruits of Kerria Japonica, Phaseolus (various spec.), Dolichos (var. spec.), Lablab, Apios, Rosa canina, Ricinus, and other plants. They consist of calcium oxalate, and generally occur in pairs, but three or four single ones are often found in one cell.

Sulphur Bath. (P. L. S., (Washington, D. C.)—[Asks for a receipt for making an artificial sulphur bath for hygienic purposes, which is rather ambiguous, since medicated baths are hardly essential to the preservation of health, however valuable they may be as therapeutic agents. Inferring, however, that he employs the term artificial in contradistinction to baths composed of natural waters containing sulphur, and that the word *hygienic* should have been *therapeutic*, we will say that a bath may be made by dissolving one part of sulphuret of potassium in one thousand parts of water; or, according to Dunglison, two ounces of diluted sulphuric acid and eight ounces of sulphuret of potassium may be added to a sufficient quantity of water. Tilbury Fox says that the bath has ℥ ij. to ʒ iv. to each bath. The compound sulphur bath of Startin has ℥ ij. of sulphur (præcip.), ℥ i. of hyposulphite of soda, and ʒ ss. of dilute sulphuric acid with a pint of water. (The latter is to be used, of course, as an application to a limited surface.) The official Codex of the French gives a formula for a gelatinous sulphur bath, which consists of 100 grammes of the sulphuret of potassium, and 250 grammes of broken gelatine. The latter is to be soaked in one litre of cold water for an hour, and then dissolved with heat. The sulphuret of potassium is then dissolved in the water of the bath, and the solution of gelatine added.]

Oxygen-Air Treatment. (The same.)—[The so-called oxygen-air treatment has chiefly been written on by quacks, and we are unable to give any references to the titles of *their* works.—in Volume III. of the MEDICAL RECORD, page 529, is a paper by Dr. Andrew H. Smith, of this city, "On the Preparation of Oxygen for Purposes of Inhalation," and in the following year the same writer was awarded a prize for an essay on "Oxygen Gas as a Remedy in Disease."]

PRESCRIPTIONS AND FORMULÆ.

Formulæ for Perfumes, by William Saunders.

Jockey Club.

Ext. jasmin	5 ounces
" orris	20 "
" musk	7 "
" vanilla	1½ "
Otto rose, virgin	1½ drachms
" santal flav	1½ "
" bergamot	2½ "
" neroli super	40 minims
Benzoic acid	2 drachms

Pure spirit, sufficient to make 4 pints.

In this way, as well as in all the following extracts, before adding the last portion of the spirit, replace as much of it with water as the perfume will bear without becoming milky, which will vary from two to eight ounces or more. This addition will make the perfume softer.

New Mown Hay.

Ext. tonka	25 ounces
" musk	6 "
" orris	8 "
" vanilla	1 ounce
" styrax	1 drachm
Otto bergamot	1 "
" neroli super	15 minims
" rose, virgin	10 "
" cloves	6 "
" lavender (English)	10 "
" patchouly	10 "
" santal flav	1 drachm
Benzoic acid	1½ "

Pure spirit, sufficient to make 4 pints.

White Rose.

Otto rose, virgin	2 drachms
" red cedar wood (true)	6 minims
" patchouly	4 "
" orange (fresh)	½ drachm
Ext. tuberose	2 ounces
" orris	2 "
" jasmin	2 "
" musk	2 "
Benzoic acid	1 drachm

Pure spirit (to which 4 ounces of rose water has been added), sufficient to make 4 pints.

Victoria.

Otto rose, virgin	2 drachms
" neroli super	2 "
" bergamot	4 "
" coriander	16 minims
" pimento	24 "
" lavender (English)	16 "
Ext. jasmine	2 ounces
" orris	16 "
,, musk	2 "
Benzoic acid	2 drachms.

Pure spirit, sufficient to make 4 pints.

Musk.

Ext. musk	1 pint
" orris	6 ounces
" vanilla	2 "
" styrax	2 drachms.
Otto santal flav	1 drachm
" bergamot	2 drachms
" neroli super	10 minims
" patchouly	12 "
" lavender (English)	15 "
" cinnamon (true)	6 "

Pure spirit, sufficient to make 4 pints.

Patchouly.

Otto patchouly	2 drachms
" santal flav	40 minims
" rose, virgin	40 "
Ext. musk	8 ounces
" orris	8 "
" vanilla	4 "
" styrax	2 drachms

Pure spirit, sufficient to make 4 pints.

Ess. Bouquet.

Ext. musk	4 ounces
" tuberose	2 "
Otto rose, virgin	1 drachm
" bergamot	1½ "
" neroli super	½ "
" verbena (true)	8 minims
" pimento	10 "
" patchouly	3 "
" red cedar wood (true)	½ drachm
" lavender (English)	12 minims

Pure spirit, sufficient to make 4 pints.

Moss Rose.

Otto rose, virgin	2 drachms
" santal flav	2 "
Ext. musk	12 ounces
" vanilla	4 "
" orris	2 "
" jasmin	4 "
Benzoic acid	1 drachm

Pure spirit, sufficient to make 4 pints.

Tuberose.

Ext. tuberose	24 ounces
" musk	4 "
" jasmin	1 "
Otto rose, virgin	1 drachm
" neroli super	10 minims
Benzoic acid	2 drachms

Pure spirit, sufficient to make 4 pints.

To be continued.

Chlorodyne (Dr. Ogden's).

℞ Chloroformi	f. ℨ vi.
Tinct. Capsici	f. ℨ ss.
Morph. hydrochlor	gr. ix.
Acidi hydrocyan. (Scheele)	♏ xvi.
Ol. Menthæ pip	gtt. ij.
Acidi perchlor	gr. xx.
Theriacæ	ℨ i.

Mix. Add the chloroform last, well rubbing and shaking. (*Chicago Pharm.*)

Donovan's Solution. (Modified process.)

Arsenious acid	gr. vi.
Mercury, pure	gr. xvi.
Iodine, pure	gr. xij.
Alcohol	ℨ ss.
Distilled water	q.s.

Rub together the arsenic, mercury, iodine and alcohol until a dry mass is obtained, and having triturated 8 oz. of the water with this in successive portions, transfer the mixture to a flask, and heat till it begins to boil. When cooled and filtered, make it up to 8 fl. oz. and 6 drachms with water. (*Chicago Pharm.*)

Jacubowitz's Injection.

Potassium iodide	1 gm.
Tincture of iodine	5 "
Water	30 "

Mix. For syphilitic bubos.

Correction.—A subscriber has the goodness to call our attention to a formula for a solution of phosphorus, published on page 124 of our last volume (J. Ashburton Thompson's solution), in which the amount of phosphorus should have been $\frac{1}{21}$ of a grain instead of $\frac{1}{32}$, as stated.

NEW PATENTS AND LAWS.

[*We will furnish gratis, to subscribers, any information relating to new patents which can be obtained from the Official Gazette of the Patent Office; and for 50c. will give copies of the drawings of such as are illustrated. Electrotypes of the illustrations contained in* NEW REMEDIES *will be furnished for 50c. per square inch.*

TRADE-MARKS REGISTERED IN U. S. PATENT OFFICE.

Certificates dated Jan. 6, 1877.

4,256. **Medical Preparation.**—E. F. Brush & Co., Paterson, N. J., and New York, N. Y. "The word-symbol 'KUMYSS' and the representation of the animal."

4,257. **Medical Compound.**—Alfred G. Catron, Chattanooga, Tenn. "The words 'THE EUREKA,' and the representation of the sun and its rays, and the words which appear within the representation of the sun and its rays."

4,260. **Medical Compound.**—John D. Park, Covington, Ky. "The words 'DR. GUYSOTT'S' and a pictorial illustration representing a standing Indian presenting a seated white man with a handful of herbs."

4,261. **Medical Compound.**—The same. "The words 'DR. WISTAR'S,' and a pictorial illustration representing a wild-cherry tree with a male figure seated at the foot thereof, and a male and a female figure standing under the branches."

4,262. **Aluminous Compounds.**—C. W. Rogers & Co., Philadelphia, Pa. "The word-symbol 'ELEPHANT.'"

4,263. **Dentifrices.**—Steele & Price, Chicago, Ill., Cincinnati, O., and St. Louis, Mo. "The word-symbol 'TOOTHENE.'"

Certificates dated Jan. 16, 1877.

4,274. **Eau-de-Cologne.**—George Jaques, Boston, Mass. "The words 'Rival of Farina' and the two crossed fencing foils."

4,278. **Medical Compound.**—R. E. Sellers & Co., Pittsburg, Pa. "The words 'BLOOD SEARCHER.'"

4,280–4,283. **Waters for Medicinal Purposes.**—The Congress and Empire Spring Co., Saratoga Springs, N. Y. (Reregistration.) "The letter 'C,' the word-symbol 'CONGRESS,' the word-symbol 'EMPIRE,' and the letter 'E.'"

Certificates dated Jan. 25, 1877.

4,288. **Cod-Liver Oil.**—Hyland and Charles Rotton, New Dorp and Brooklyn, N. Y. "The arbitrary word 'Vitalized.'"

4,301. **Medicines.**—James R. Nelson, Wells' River, Vt. "A figure representing Æsculapius standing upon a pedestal, upon the base of which is seen the word 'Æsculapius.'"

4,306. **Medical Compound.**—Joseph Roberts, Baltimore, Md. "The word 'Roberts,' and the pictorial representation of the head of an ox or a bull."

Certificates dated Jan. 30, 1877.

4,313. **Medicinal Troches.**—B. E. Hutchinson, Worcester, Mass. "The letters 'B E H's.' and the word-symbol 'Triumphant.'"

4,316. **Medicated Electric Plasters.**—Bell, Mann & Co., Chicago, Ill. "A heart-shaped figure used in conjunction with the words 'Galvano-Electric.'"

4,328. **A Medical Compound.**—Ebenezer K. Thompson, Titusville, Pa. "The word-symbol 'Barosma.'"

LABELS.

Certificates dated January 9, 1877.

941. **"Sweet Tar Drops."**—Henry Gosling, San Francisco, Cal.

944. **"Improved Extract of Yellow Dock and Sarsaparilla."**—John D. Park, Covington, Ky.

945. **"Balsam of Wild Cherry."**—The same.

Certificates dated January 16, 1877.

950. **"Eau-de-Cologne of George Jaques."**—George Jaques, Boston, Mass.

951. **"Professor Lilley's Embrocation for Rheumatism, or Lumbago,"** etc.—Professor Lilley, New York, N. Y.

952. **"Hop Syrup."**—Benjamin E. Pilley, Philadelphia, Pa.

Certificates dated January 30, 1877.

962. **"Eau-de-Cologne of George Jaques."**—George Jaques, Boston, Mass.

963. **"Peck's Cod-Liver Oil and Wild-Cherry Bark."**—Henry F. Peck, Philadelphia, Pa.

Certificates dated February 6, 1877.

964. **"Horehound Troches."**—Albert G. Bassett, Rochester, N. Y.

966. **"Persley B. Comb's Horse Powders."**—Persley B. Combs, Alliance, O.

967. **"Wild-Cherry Pastilles."**—Edwards & Hutchinson, Leesburg, Va.

968. **"Mrs. Mary J. Bingham's Sweet Tar Balsam."**—Henry Gosling, San Francisco, Cal.

971. **"Wilbor's Pure Cod-Liver Oil and Phos. Lime."** Alexander B. Wilbor, Boston, Mass.

PATENTS.

Patents granted January 9, 1877.

186,022. **Eyeglasses.**—John S. Spencer, New York, N. Y.

186,032. **Obtaining Coloring Matters Suitable for Dyeing and Painting.**—H. Caro, Mannheim, Germany. [A product of alizarine].

186,089. **Carbonic Acid Generators.**—A. Kayser, Buffalo, N. Y., assignor to P. P. Pratt, same place.

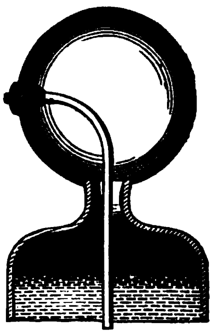
186,122. **Scale Beams.**—F. Fairbanks, St. Johnsbury, Vt., assignor to E. & T. Fairbanks & Co., same place.

186,187.

186,187. **Bung-Seals.**—A. Wood, Brooklyn, N. Y. The combination of a seal made of fragile material with a bung having a recess in its face, said bung being secured in position by means of nails, or equivalent fastenings, which are covered by the seal.

Patents granted January 16, 1877.

186,208. **Atomizers.**—Wm. Kennish, New Brunswick, N. J., assignor to C. B. Dickinson, Brooklyn, N. Y. The air-bulb and liquid-receptacle form one continuous chamber. The liquid-tube connects directly with a valve-seat in the rubber, and the valve is a rubber disk with a single perforation, located just over the exit end of the tube, and serves to give egress to the fluid and ingress to the air.



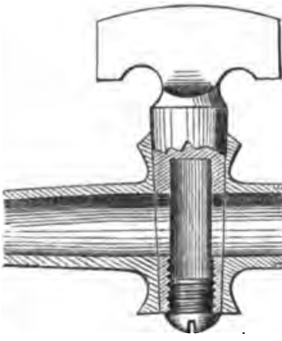
No. 186,208.

186,141. **Remedy for Fevers.**—Judie D. Lipscomb, Andrews, Va. [A compound consisting of tulip-tree bark (*Eiriodendron*), willow bark (*Salix*), blue gentian (*Gentiana Catesbœi*), wild-cherry bark (*Prunus Virginiana*), dogwood bark (*Cornus Florida*), sassafras

(*Sassafras*), flowering almond (*Prunus amygdalus*), whiskey, common salt, sulphate of quinia, and Fowler's solution of arsenic (*Liquor potassæ arsenitis*).]

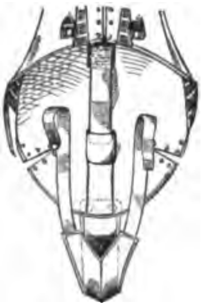
186,175. **Devices for Decanting Liquids.**—Eugene Snyder, Harrisburg, Pa.

186,154. **Strainers for Faucets.**—S. S. Newton, Binghamton, N. Y. The plug has a chamber which can be opened from below, and into which a filtering material can be introduced, or removed for cleansing or other purposes.

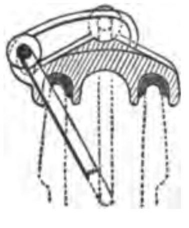


186,154.

186,258. **Abdominal Corsets.** — C. Lascell, Newark, N. J. For a woman who is pregnant or who may have a prominent abdomen from other cause. The cut shows the inner surface (from the rear). The central spring is made in two overlapping portions which maintain the rigidity of the supporter while bending forward or other movements on the part of the wearer are not interfered with. The weight of the abdomen is thrown on to the shoulders and hips.



No. 186,258.



No. 186,270.

186,270. **Bottle-Stoppers.**—E. B. Requa, Jersey City Heights, N. J. The combination with a stopper-cap for bottles and other vessels, of a packing-gasket held by a screw-threaded rim formed on or affixed to the under surface of the cap.

186,287. **Tooth Brushes.** — S. Woolverton, Trenton, N. J.

186,294. **Combustible Compounds.**—Jean Baptiste David Cassinelli, Paris, France. A combustible compound consisting of tan bark, charcoal, and nitrate of lead, cemented together by means of starch paste, and formed into cakes.

186,311. **Combined Bottle and Basket.**—E. Cusenier, Paris, France.

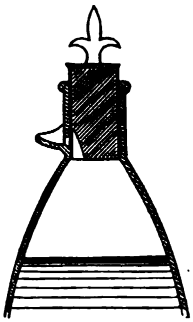
186,321. **Bottle for Hair Dye.**—Thos. Divine, Charleston, S. C. An outlet is made at the side of the neck opening into the hanging lip. The stopper has a thumb-piece by which it may be turned so as to bring the slot in the stopper opposite the outlet in the neck.

186,349. **Furnaces for Evaporating Alkaline Solutions.**—Jno. Kitchen, Manayunk, Pa., assignor to himself and Uriah B. Allen, Sandy Hill, N. Y.

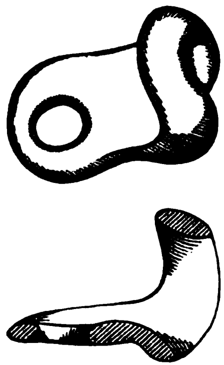
186,400. **Indicators for Drawing Liquids from Bottles.**—Isidor Levi, Cincinnati, O.

Patents granted January 23, 1877.

186,469. **Pessaries.**— Charles N. Fowler, Youngstown, O. A modification of Hodges' pessary.



186,321.



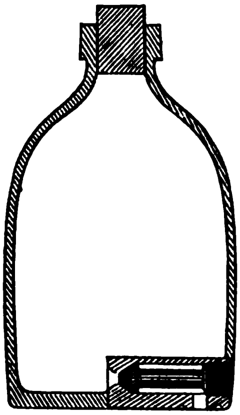
186,469.

186,476. **Bottle-Stoppers.**—J. M. Hoyt, Lynn, Mass. The metallic stopper-cap has grooves in the top, of different depths, in order that the vail may compress the elastic portion of the stopper more or less, as desired.

186,485. **Preparing Aniline Dyes.**—L. Leigh, Pittsfield, Mass. Forms the composition into small cakes of any convenient size and shape. In using the dye, the quantity desired is shaved from the cake into a vessel of boiling water. As a new article of manufacture, a solid block or cake consisting of soap, gelatine, and an aniline dye, the whole soluble in water and capable of imparting a fixed color to fabrics.

186,512. **Registering Devices for Bottles.**—E. Zahringer, Pittsburg, Pa.

186,540. **Poultices.**—H. E. Canty, Liverpool, England. [A water-bag faced with spongiopiline or similar absorbent material, to serve as a poultice.]



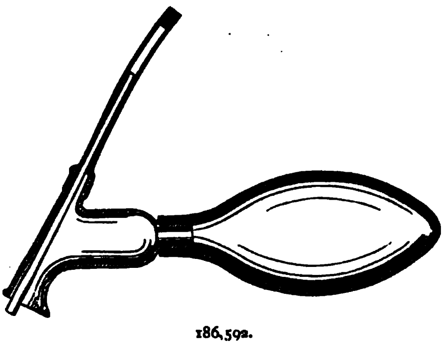
186,557.

186,557. **Jugs, etc.**—Thomas C. Hargrave, Boston, Mass. The combination with a jug, or other receptacle for containing a volatile fluid or liquid charged with gas, of a closed case provided with induction and eduction openings, a valve, and means for operating the latter.

186,573. **Eyeglasses.**—F. P. Innarone, Washington, D. C.

186,605. **Processes of Preparing Extract of Meat.**—Henry Naumann, Basle, Switzerland. The process of preparing meat consists in first taking the lean portion of the meat and treating with distilled or soft water, then adding a suitable acid, after which the liquor is boiled under high pressure, bicarbonate of soda added, and the product evaporated and thickened.

186,592. **Artificial Leeches.**—Floyd T. McDonald, Blacksburg, Va. A scarificator works through the upper part of a T-shaped tube, which is inserted by its lever-leg into a rubber bulb.



186,592.

186,635. **Bottle Protectors.**—Wm. C. Stokes, Grass Valley, Cal.

186,645. **Evaporating Apparatus.**—D. Watson, Havana, Cuba.

186,646. **Open Pan Juice-Evaporators.**—The same.

Patents granted January 30, 1877.

186,694. **Invalid Bedsteads.**—W. Spanner, Toronto, Ontario, Canada, assignor to B. Morton, same place.

186,700. **Hinged Splints.**—G. S. Adams, Philadelphia, Pa.

186,712. **Flavoring Powders.**—Wm. P. Clokworthy, Baltimore, Md., assignor to Smith, Hanway & Co. As a new article of food, flavoring powders composed of fluid extracts or essential oils used for flavoring food and table luxuries, and starch, meal, flour, and other dry absorbents.

186,726. **Veterinary Surgical Instruments.**—L. W. Hamilton, Pendleton, Oreg.

186,735. **Processes of making a Pigment Base.**—Henry Knight, Liverpool, Eng. The process of making a pigment base, which consists in adding to a solution of zinc sulphate a solution of calcic sulphide, to the filtrate a solution of sodic sulphide, and to the filtrate of this latter reaction a solution of calcic chloride; the usual resulting precipitates being collected together.

186,743 **Soda-Carbonating Apparatus.**—J. McCloskey, East Cambridge, Mass.

186,760. **Trusses.**—E. H. Ryno, Wayland, Mich.

186,764. **Apparatus for Drawing Still Waters.**—E. Ripley Sibley, St. Louis, Mo.

186,798. **Bottling Machines.**—A. Christin, Chicago, Ill.

186,860. **Apparatus for the Hydration of Chlorine Gas.**—W. Maynard, Philadelphia, Pa.

Reissued.

7,485. **Processes and Apparatus for Evaporating and Calcining Alkaline Solutions.**—M. L. Keen, Stroudsburg, and Hugh Burgess, Royer's Ford, Pa., assignors to American Wood Paper Company. [Patent No. 46,244.]

◆◆◆

Prices of Quinine, Salicine, etc., in England.—The wholesale price of quinine in England and on the Continent, in January, 1876, was 6s. 6d. an ounce; in January, 1877, 11s. an ounce. Salicine a year ago was 1s. 10d. an ounce; it is now 10s. Salicylic acid in January, 1876, was 1s. 4d. an ounce; it is now 1s. The price of salicylate of soda was not quoted a year since; it is now 1s. 3d. The value of quinine has probably been enhanced by the prospect of the war in Eastern Europe. Salicine has suddenly sprung into favor as a drug. It is made only from the willow bark, and that only at stated times of the year.

ITEMS.

College of Pharmacy of the City of New York.—The session of 1876-77 came to an end on Friday, March 8th, at which time the result of the examination was announced to the Graduating Class. In compliance with the recommendations of the Conference of Teaching Colleges, the usual oral and written examination was supplemented by a practical laboratory examination, in which each student was required to determine, as to identity or as to purity, 3 specimens of pharmaceutical chemicals, selected at random from a previously prepared collection. The answers handed in in this department have shown to the examiners that there is yet a large field for improvement in the practical training of young pharmacists, and it will be made the aim of the college to direct particular attention to, and to illustrate the practical application of, the theoretical instruction imparted in the lectures. During the summer a special afternoon-laboratory course will be arranged for any young men, who are unable to attend the usual morning-course, and we would earnestly recommend to our young friends to take advantage of this offer. The number of graduates (52) this year is the largest ever passed since the establishment of the college (in 1829), and the average standing of the class is not inferior to any previous one. The names of the graduates are: A. L. Avery, E. N. Benham, O. Boeddiker, J. A. Boyken, S. C. Bradley, M. J. Breitenbach, E. Broquet, W. D. Colby, F. M. Corwin, O. Doepfner, V. Duteil, K. J. Egge, P. Fries, W. A. Frost, F. Garrison, W. S. Getty, J. Goetze, W. Hebig, F. P. Heidt, V. Herdling, C. L. Howe, O. H. Hund, E. L. Hunt, R. L. Iler, R. J. Kingston, M.D., C. F. Klippert, H. Kopf, C. J. Lawler, E. F. Leister, A. Levy, E. Montanus, Jr., W. G. Neubauer, F. H. Nowill, J. H. Parker, C. N. Pauly, H. Rieger, J. T. Rose, J. P. Routh, H. Schmid, W. Schoelles, G. T. Schoenchen, Conr. Schoenefeld, H. Von R. Schrader, O. O. Speck, E. A. Stahl, Jr., J. A. Stegmaier, J. Teschner, H. Van der Emde, W. A. Van Duzer, F. B. Wells, J. G. Winckelmann, E. V. Zoeller.

Kings County Pharmaceutical Society.—At a meeting held in Brooklyn, on the 27th of February, the following officers were elected, and Code of Ethics adopted:

President, George C. Close; *First Vice-President*, G. M. Baker; *Second Vice-President*, Cyrus Pyle; *Third Vice-President*, —— Sheets; *Secretary*, Lewis E. Nicol; *Treasurer*, R. J. Owens; *Censors*, Geo. H. Norfolk, Geo. A. Newman, H. M. Gross; *Trustees*, Thomas Jones, L. T. Perkins, Elisha Theal, Jr., S. Chichester, Barent Livinston; *Delegates to the Amer. Pharm. Assoc.*, Geo. Neuman, J. F. Sayre, J. O. Barnby.

CODE OF ETHICS.

PREAMBLE.—The Kings County Pharmaceutical Society, considering it necessary that some mutual understanding should exist in regard to the principles guiding them in their profession hereby agree upon the following Code of Ethics:

I.—We accept the United States Pharmacopœia as our standard and guide for all officinal preparations and recognize a variance from its rules only in exceptional cases, where sufficient authority has proved some other process more reliable to attain the same end. This Section is not intended to interfere with the dispensing of prescriptions or medicines ordered in accordance with foreign pharmacopœias.

II.—Although not a legitimate part of our business, custom, and the necessities of the times, warrant us in keeping the proprietary medicines of the day, yet we earnestly recommend pharmaceutists when called upon for an opinion of their merits, to discourage their use.

III.—We discountenance all secret formulas between physicians and pharmacists, and consider it our duty to communicate such to each other when requested.

IV.—We distinctly repudiate the practice of allowing physicians a percentage on their prescriptions as derogatory to both professions.

V.—We will endeavor, as far as lies in our power, to refrain from compromising the professional reputation of physicians, and we expect the same comity from them.

VI.—Since the professional training of the pharmacist does not include those branches which enable a physician to diagnosticate and treat disease, we should, in all practicable cases, decline to give medical advice and refer the applicant to a regular physician.

VII.—The growing demands of the age require that those who follow the profession of pharmacy should be educated up to a higher standard; therefore we consider it our duty, individually and collectively, to encourage the advancement of knowledge in our profession generally, and particularly by stimulating our assistants to attend the lectures of some college and by aiding and assisting them to do so.

VIII.—Considering it expedient that some rule be adopted to enforce the provisions of our Code, we hereby agree that, if any just complaint of its violation be found against a member of this Society, to bring the case before a special or the next general meeting of the Society, when the accused, after being heard in his own defense, may be expelled by a two-thirds vote.

The Metric System and New Jersey.—The District Medical Society for the County of Hudson, N. J., at the regular meeting held on March 6, unanimously agreed to a resolution which recommends the Metric System in prescribing.

At the Annual Meeting of The American Microscopical Society of the City of New York, held Tuesday evening, January 9, 1877, the following officers were elected for the ensuing year: John B. Rich, M.D., President, 1 West 38th Street, N. Y.; Wm. H. Atkinson, M.D., Vice-President, 41 East 9th Street, N. Y.; O. G. Mason, Secretary, Bellevue Hospital, N. Y.; T. d'Orémieulx, Treasurer, 7 Winthrop Place, N. Y.; John Frey, Curator, Bellevue Hospital, N. Y. On the evening of the sixth inst. the Society gave a public reception at the Kurtz Gallery, on Twenty-third Street, the rooms being crowded with gentlemen and ladies. A number of small tables were placed at intervals on the floor, and on them microscopes and apparatuses thereto pertaining were arranged for the edification of the guests. The interest evinced in the exhibition was all that could have been desired by the most enthusiastic member of the Society, and the gathering did not break up until a late hour.

Obituary.—POGGENDORFF, Prof. Joh. Christ., born at Hamburg, Dec. 29, 1796; died at Berlin, Jan. 24, 1877. He was an apothecary from his 16th to his 24th year; afterwards he studied chemistry and physics, and soon acquired a prominent name. He was editor of "Poggendorff's Annalen," and has been professor of physics at the university of Berlin since 1834.

HOFMEISTER, Dr. Wm. Fred. Benedict. Prof. of Botany at the university of Tübingen. Born 1824; died Jan. 12, 1877.

BAIN, Alex. Inventor of the electro-chemical printing telegraph. Died at Broomhill in Scotland.

Mr. ALFRED SMEE, F.R.S.—By an oversight we failed to mention in our last number the death of this well-known writer and inventor, which occurred in January. He had for many years been surgeon to the Bank of England, and was the inventor of the present method of printing its notes. He was the originator of the "Smee battery," and author of a number of works upon electricity and professional subjects.

Poison Bottles, of the fluted blue-glass pattern, introduced by Mr. Toogood, have been adopted by the dispensary of King's College Hospital, in London, and are now used for all liquid medicines to be applied externally. Patients are required to bring such bottles with them, or to pay the hospital the cost price for them.

Stopcocks, Measuring Rules, and Accurate Weights of rock-crystal, made by H. Stern in Oberstein, Prov. Aldenburg, Germany, are highly recommended by Prof. C. R. Fresenius.

To Detect Artificial Coloring in Highwines, as Brandy, or Whiskey, add one-sixth of their volume of white of an egg to the suspected sample, shake well, and allow the mixture to separate again. If the liquor was colored naturally, by being kept in wooden casks, the supernatant liquid will be observed to have retained its color; but if the color disappears, artificial coloring (caramel) has been added to the liquor.

Invisible Ink for Postal Cards.—The *Deutsche Illustrirte Gewerbezeitung* proposes the general use of what may be called "postal card ink," for messages which are sent on such cards, or otherwise unsealed. The advantage would be, that under ordinary circumstances the message would remain unknown to any but the person addressed, although everybody might employ the same ink and the same means for developing the writing; for, since it is unlikely that real confidential messages would be sent by open postal card, but few persons would have inclination or time to develop the writing at the risk of being found out, and not finding out anything important themselves. Various liquids are proposed for this purpose. A solution of nitrate or chloride of cobalt, or chloride of copper, mixed with a little gum or sugar, produces a "magic ink," which is made visible by warming, either by holding against the stove or over a burning match. Potassium ferrocyanide in solution may also be used; but this requires a developer, for which either copper or iron sulphate may be employed. With the former the writing will appear in brown, and with the latter in blue color.

Prize Announcement.—The "Pharmaceutische Kreis-Verein Leipzig, Bureau für Untersuchung von Nahrungsmitteln und für hygieinische Zwecke," B. Kohlman, chairman, offers a prize of 300 marks for the discovery of a sure and practical method of determining foreign fats in cow's butter. Papers in answer to this must be sent to the above-named address on or before Sept. 30, 1877; they must be inscribed with a motto, and be accompanied by a sealed envelope, bearing the same motto and containing the author's name. The paper receiving the prize remains the property of the bureau.

Patent Medicines in Alsace-Lorraine.—A decree has recently been issued regulating the sale of specialities and secret remedies in Alsace-Lorraine. According to it all the preparations that had received the approval of the French Academy of Medicine previous to the annexation of those provinces to the German Empire are still allowed to be sold. But those that had not been so sanctioned, as well as new medicines, must first receive the authorization of a commission sitting at the University of Strasburg, and consisting of M. Gusseron, Dean of the Faculty, and Professors Kussmall, Schmiedeberg, and Flückiger.

Laboratory Notes.—Hard rubber or vulcanite, placed for several weeks in nitrobenzol, becomes soft and pliable like leather, and easily broken.

The vapor of chloral hydrate is a solvent of cellulose. Corks of bottles containing the crystals have been found to be eaten away to the depth of quarter of an inch, the cork being resolved into a black semi-liquid. Certain kinds of tissue paper, if thrown into a bottle containing the crystals, are partially dissolved.

Aniline oil is said to dissolve gum copal with great facility.

Hyposulphite of soda seems to be soluble to a certain extent in spirits of turpentine.

The vapor of iodine, in the course of several months, will penetrate deeply into lumps of beeswax.—*American Chemist.*

Poisoning by Lead.—A case of lead poisoning which recently occurred in France was traced to the pewter foil used to cover Roquefort cheese. The pewter contained twelve parts of tin, eighty-five parts of lead, and three of undetermined matter.

NEW REMEDIES.

AN ILLUSTRATED MONTHLY TRADE JOURNAL OF
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VOL. VI., NO. 4, WHOLE NO. 34.

FRED'K A. CASTLE, M.D., - - EDITOR.
CHARLES RICE, - - ASSOCIATE EDITOR.

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THE edition of NEW REMEDIES this month is 7,000 copies.

NEW REMEDIES has the largest circulation of any journal published for the Drug Trade, not owned or controlled by some house interested in the manufacture or sale of proprietary articles. It has no interest but that of the entire Trade, and advertisers are treated with absolute impartiality.

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BE sure to read the department of "Recent Papers" in this journal; it is in small type, and contains in a nutshell the gist of new articles in foreign journals.

80,000 copies of NEW REMEDIES were printed and issued during 1876.

EDITORIAL.

THE proposed plan of placing the future management of the United States Pharmacopœia into the hands of a Council appointed or elected, as suggested by Dr. Squibb, meets with general approval from the European Pharmaceutical and Medical Press. Indeed, to our mind, there can be no question but that it is the simplest and best solution of an important problem. If the pharmaceutical profession is content to yield to physicians the right which belongs to them, of designating the kind and the strength of remedies they desire to make use of, let us hope that, in return, the medical profession at large will take a more active interest in the Pharmacopœia—such an interest as will obliterate much of the irregularity and uncertainty which necessarily accompanies the use of unofficial and unscientific compounds. The study of therapeutics, or rather of pharmacodynamics, is beset with so many difficulties that it is absolutely necessary to eliminate all such uncertain factors as are accessible; and the only way to arrive at reliable and generally useful data, is to start from uniform premises—in this case, the officinal preparations of the Pharmacopœia.

There is, however, one obstacle which we fear will prevent the medical profession taking as prominent a part in the labor of revising the Pharmacopœia as it is desirable they should, viz.: the lack of physicians who are sufficiently familiar with the subject, and who would be willing or could afford to give the time necessary for the work.

In the days when the Pharmacopœia had its origin, a knowledge of the physical characteristics of the substances employed in medicine was much more common to physicians than it is at present. Then the custom of handling and dispensing the remedies they employed was by no means so rare as it now is among them, and this insured a certain degree of experience in pharmaceutical manipulation. Then, too, a professor of Materia Medica and Therapeutics taught the former as well as the latter, and a student, on graduating, was expected to know something of the tools he was to handle besides their names, sources, and doses. At present, however, the whole tendency of medical instruction is calculated to lessen the value placed upon a knowledge of materia medica by the student, and the system of pupilage under the guidance of our large medical schools permits a man to enter the practice of his profession without his knowing one drug from another. On the other hand, there has grown up a generation of pharmaceutists who have cultivated and developed this feature of medical science, and have at length become almost the sole custodians of that special sort of knowledge which is essential to the construction or revision of a Pharmacopœia.

It is possible that familiarity with the Pharmacopœia on the part of the medical profession would have been greater if this work had undergone some time since the changes proposed by Dr. Squibb; but it is undeniable that there are at present many who hardly know of the existence of such a book.

One of the natural results of ignorance regarding the nature of pharmacopœial preparations already adopted has been a tendency to resort to unofficinal formulæ and preparations, and although in many instances these have been of inferior character, they have had the benefit of persistent advertising or the charm of novelty.

We shall sincerely rejoice if any plan for the reconstruction of the Pharmacopœia will render it of more interest to the physician and less strictly a guide for the pharmacist alone. To accomplish this the co-operation of wise and liberal-minded physicians is essential, and it may be that the delegation of the authority to the American Medical Association will have the effect of directing greater attention to the benefits arising from the possession of a well-arranged and comprehensive Pharmacopœia.

We disapprove in the strongest manner of the expression of such opinions as were contained in a recent letter by Mr. Rother in the Chicago *Pharmacist*, and are surprised that the editor should allow them to go without comment. Possibly, some of them were considered sufficiently absurd to serve as their own antidote. Such a claim as that medical men covet the money to be made by the publication of the Pharmacopœia, and for this reason wish to have it under the control of the American Medical Association, needs no comment; and we could almost say as much of his plan for having a National Convention for Revising the Pharmacopœia composed entirely of pharmacists, who should make a Pharmacopœia of their own, and let the doctors take care of themselves. Perhaps Mr. Rother will come, at no distant day, to the conclusion that the services of a physician for the purpose of selecting the particular pharmaceutical preparation which is adapted to the case under treatment is also superfluous. Judging by the communications which we have seen in our exchanges for some time past on the subject of "counter-prescribing," he would not be without companions.

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

Rheum Officinale.

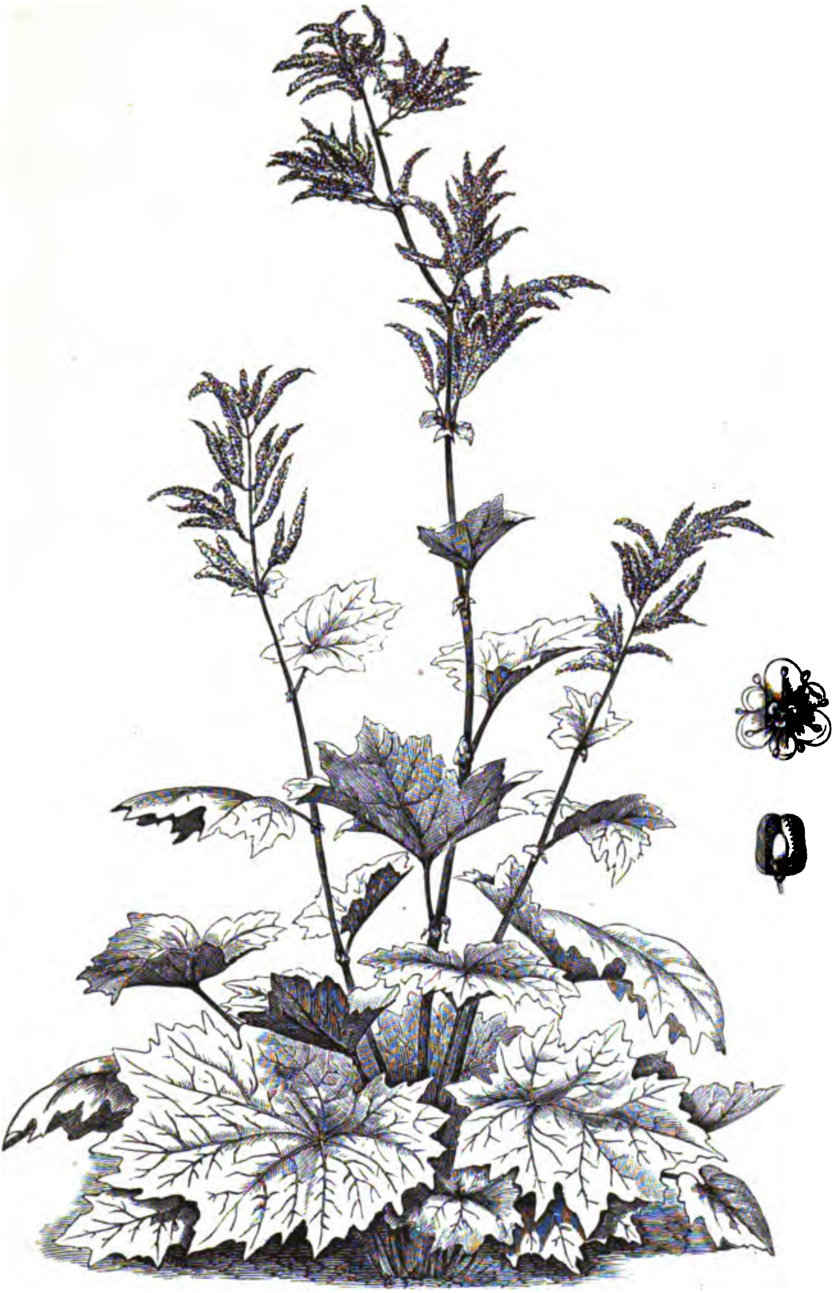
On page 132 of the last volume of New Remedies, we gave a translation of Professor Flückiger's paper on the plant which has been ascertained to be the source of the Russian, or Chinese variety of rhubarb.

As we are now enabled to supplement the knowledge of rhubarb by the reports of Lieut.-Col. Przewalski, we embrace the opportunity of giving an illustration of the plant, taken from Flückiger's paper and republished in the *Proceedings of the Amer. Pharm. Association.*

Professor Flückiger, having had an opportunity for observing the growth of the plant, says that "the flower stems attained nearly their full height from the 20th to the 25th of May, and were in full bloom on the 9th of June; the flower withered on the 26th of June, and the stems had then attained their full size, 2½ metres. Most of the little fruits were ripe by the 20th of July, but their number was small compared with the quantity of flowers. Neither the flowers or fruits were distinguishable from those of other species of rheum. The author has carefully examined the roots of rheum officinale cultivated by himself; some that had been cultivated in the garden of the École Supérieure de Pharmacie de Paris, and some that had been cultivated and carefully prepared by Messrs. Rufus Usher & Sons, of Oxfordshire, in the manner in which they prepare their well-known rhubarb for commerce, and he arrives at the conclusion that the root of *Rheum officinale*, Baillon, undoubtedly possesses the characteristics of Chinese rhubarb.

The Russian government, at the request of the Russian Geographical Society, in 1870, dispatched a scientific mission to Northern China, to explore the regions lying outside of the great wall. Although the expedition had to contend against the greatest difficulties, and was but very scantily provided either with funds or apparatus, it nevertheless accomplished great results, and returned in 1873 with rich collections. Przewalski's report has been published, and contains among other highly interesting matters an account of rhubarb cultivation, accompanied by two illustrations, which differ somewhat from that given by Flückiger, and are intended to represent *Rheum palmatum.* Przewalski's account is as follows:

The rhubarb-plant has three to four large, dark-green, palmately-lobed leaves, growing from the root; the largest leaf which we found was 63 centimetres (24.8 inch.) long, and 1 metre (39.37 inch.) wide. Between these leaves the flower-stalk rises to a height of 2.20 to 3.16 metres (98 inch. to 124 inch.); its diameter reaches 4 centimetres (1.57 inch.). These are the dimensions of a full-grown plant. Very old plants have sometimes ten or even more leaves, but in this case they have several flower-stalks, one of which generally belongs to a set of three or four leaves. The petiole has an oval shape, as shown by a cross-section, and is about of the thickness of a finger; sometimes it reaches a length of 68 cm. (26.77 inch.). It is greenish below, reddish above, and is covered all over with reddish stripes, which, are 3 to 5 millimetres (0.118 to 0.197 inch.) in length. The flower-stalk has several nodes bearing smaller leaves, and the small white flowers are



Rheum Officinale (*Baillon*).*

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* From the Transactions of the Am. Pharm. Assoc.

situated upon separate pedicels. The root is oblong and provided with short thin radicles, which in all specimens examined, numbered 25. The largest of these radicles are 55 cm. (21.6 inch.) long, and have, at the point of coalescence with the main-root, a thickness of 4 cm. (1.57 inch.). The development of these secondary roots, however, depends entirely upon the age of the plant. A full-grown root has a length of 32 cm. (12.60 inch.), rarely more, and is covered with a rough brown epidermis, which is removed after the root is dried.

The flowering season of rhubarb falls in the end of June and beginning of July. Exceptionally, plants are met with which flower a little sooner or later. The seeds ripen in the latter half of August.

According to the statements of the natives, rhubarb has no medical properties, except when dug up in spring or autumn; during the flowering season in summer it is said to be spongy, which statement, however, is not confirmed by our experience. The chief harvest of rhubarb is made by the Tangutes, and partially also by Chinese during September and. October. Since the outbreak of the revolt of the Dunganes, however, the production has been considerably reduced, and in some districts has been entirely suspended. In former times the collection of rhubarb was carried on with so much eagerness, that only such plants, as grew in inaccessible places, were safe from eradication; else the plant would perhaps be entirely extinct at the present time. In the mountains near the monastery Tshertynton,[*] it is found very rarely; but it is said to be very common farther west, near the head-waters of the Tetung-gol and Etzsyn-gol, where the chief bulk of rhubarb was formerly collected and carried to Sining, which latter city is still the chief emporium of rhubarb. While I was at Tjan-dsin, the price of rhubarb at Sining was 1 lan of silver for 1 hin (about 20 cents per pound). In Russia the usual price is 3 to 5 roubles per pound.[†]

The drug is carried from Sining during the winter on the backs of animals, and during summer on boats upon the river Chuan-che to Peking, Tjan-dsin and other Chinese ports, and there sold to Europeans. Here the price is already six or ten times higher than at Sining. In former years the principal bulk of rhubarb went from Sining to Kiachta; but since the revolt of the Dunganes this route has been closed, although at present it might without difficulty be reopened, owing to the complete suppression of the insurrection. It would only be necessary to send once a caravan from Kiachta to Sining, or at least to Nin-sya; but ten to fifteen well-armed guards would be necessary for its protection.

When rhubarb is to be dried, the secondary roots are cut off, and the main-roots are peeled. The thickest part of the root is then split, cut into pieces, strung upon cords and suspended in an airy place, generally under the roof of a shed. This manner of drying is said to be necessary, as sunlight is supposed to be injurious to the roots. The larger rootlets are, however, not thrown away, but are treated like the main-roots, and sold with them.

In the Gan-su (Kan-su) mountains the officinal rhubarb is found growing not only at the bottom of the deepest ravines and valleys, but even as high up as the upper forest limits, or to a height of about 3,150 metres over the sea. Occasionally it is met with in still higher locations, but it is always found to grow in hollows with damp, rich soil, and mostly on slopes having a northern aspect. Very rarely it is found on southern slopes, and still more rarely in places devoid of trees.

In those districts which I have visited, the Tangutes cultivate the rhubarb in their gardens near their own dwellings, raising it either from the seeds, or by transplanting young wild plants. The seed may be planted in autumn or in the beginning of spring; but it must be placed into a fine-grained, clean, and damp soil. The natives state, that the root reaches the thickness of a fist in about three years, but does not attain its full size before its eighth or tenth year, and even later. The amount of cultivated rhubarb is, however, quite inconsiderable, and is only intended for domestic use, as medicine for themselves and their cattle. The natives of all districts, which I have visited, assured me, that rhubarb is nowhere cultivated on a large scale.

A close investigation of the physical conditions, under which rhubarb grows, has convinced me, that its cultivation could be carried on with success in many portions of Russia, as in the Amoor-district, in the Baikal- and Ural-mountains, and in the Caucasus. I have brought home a large number of seeds, which have been delivered to the Imperial botanic gardens.

According to the natives, rhubarb is not only found in the mountain chains to the north of the Kuku-nor lake, but also to the south of it, as far as the snow-clad ridges south of Sining, and in the Ograi-ula chain near the sources of the Yellow River. Whether it is also found in the mountainous parts of the province of Sy-Achan, I could not ascertain with certainty; but *in the hills of northern Thibet* which are destitute of forests, *the officinal rhubarb does not occur*. According to all the information, which I could gather, its growth is confined to the alpine region about the Kuku-nor lake and the sources of the Yellow River.

Besides the officinal rhubarb, another species is found in the mountains of Gan-su (Kan-su), namely, *Rheum spiciforme*. This grows exclusively in alpine regions, has thin, branching roots, which often reach a length of 1.30 metres (51 inch.) and are devoid of medicinal properties. This species is found also in the Himalaya, in Tan-shan, and in the deserts of northern Thibet. The Tangutes name this species *Sar-tchüm*, the Mongols, *Kurma-sharamoto*, while the Tangutic name for true rhubarb is *Djum-tsa*, the Mongolian, *Sharamoto*, or "yellow wood."[*]

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[*] 37° N. and 101° 40′ E. from Greenwich.

[†] 1 Lan or Liang is generally identical with Tael (=$1.43); but in Central and Western China it is somewhat less than an English shilling. It is only an imaginary coin. 1 Hin or Yin is properly 583.426 grammes. A rouble is 77.164 cents.

A Simple Suction and Pressure Apparatus.

Mr. C. Bulk recommends a simple apparatus, which may be used either for suction or for pressure, and which may be regarded as a modification of those proposed by Christiansen,[†] Arzberger, and Zulkowsky.[‡] It consists of a glass tube *a*, constricted by being drawn out near its upper third and containing a smaller trumpet-shaped tube *b*, reaching to the narrow part, (as may be seen in the figure,) and joined at *c* with the lateral tube *d*. A stream of water flowing through the latter (*d*), after passing through the constriction, being compelled to expand in the wider portion of the tube, will diminish in rapidity and will therefore draw air from the tube *b*. If the tube *a* were straight, however, the current of water would soon begin to rotate and become interrupted, in which case it would attract but little air. This is obviated by the bending of the tube *a* (Fig. 1), or else by blowing a lateral hole into the tube (Fig. 2, bottom of *a*), whereby all rotation of the current of water is prevented. This small apparatus is so powerful, that with a pressure of water equivalent to a column of 10 metres in height, it will lift 720 millimetres of mercury, and aspirate one-half litre of air each minute. But even with a small pressure of water it works satisfactorily, and forms an excellent aspirator for rapid filtration, as it may be used upon any portion of the work-table and be connected with the water- and waste-pipes by suitable india-rubber tubing.

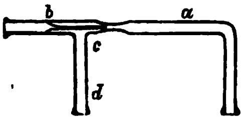

Fig. 1.

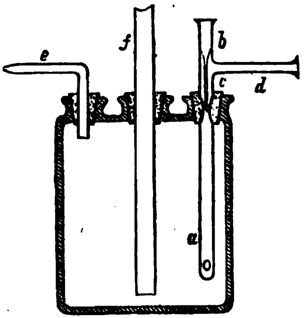

Fig. 2.

The air which is aspirated by this apparatus may be converted into a stream of compressed air. For this purpose the exit portion of the suction apparatus is passed through one of the necks of a three-necked Woulff's bottle (Fig. 2), which carries in the others a small glass-tube *e* drawn to a point, and a safety tube *f*. On allowing a current of water to enter the bottle through *a*, air is drawn in from *b*, and is expelled at *e* under pressure, the amount of which depends on the height of *f*. Should compressed air become unnecessary, *e* may be closed and the safety tube *f* be connected with a pipe passing downwards; the suction power of the apparatus is thereby increased. —*Ber. d. D. Chem. Ges.*, 1876, 1871.

The Sources of our Drug Supply.

An American correspondent of the *Chemist and Druggist*, speaking of the paucity of the medicinal products of this country as compared with our other vegetable and mineral productions, remarks that we are dependent upon foreign lands for our medicinal drugs, as well as for the greater portion of the vast quantities of our chemicals for use in the various industries of the country. "We have no alkaline products of consequence—these are imported to the amount of millions from England: of bark for quinine manufacture and opium for morphia and laudanum, we are destitute. Resinous gums are entirely derived from Oriental lands. Madagascar and other places in the same latitudes supply us with the copal and other gums suitable for varnish manufacture. The larger portion of our dyes and dye-woods are of foreign derivation, viz., indigo, lac dye, logwood, fustic, and other similar woods; brimstone and sumac are from Sicily. All the essential oils for perfumery are imported; cream of tartar from Marseilles and Trieste. The spices—cinnamon, cloves, mace, etc.—are from the East. Rhubarb, senna, scammony, cubebs, ipecacuanha, jalap, and licorice are unobtainable at home; and aloes, anatto, copaiba, camphor, cardamoms, gamboge, myrrh, manna, nutgalls, and many other items which could be mentioned, are of foreign growth. We are producers of a few vegetable drugs, but only a few—ginseng, largely exported to China, and by that peculiar people held, it is said, in especial reverence; oils of wintergreen, peppermint, sassafras, spruce, and a few others; beeswax, saffron, sassafras bark, Carragheen moss, and of late years borax and quicksilver. In oils and paints we are lacking olive oil, and to a considerable extent castor and linseed oils, the local production of these two latter being a quite inadequate supply; with cotton-seed oil we can and do supply the world, and perhaps much of it comes back to us rechristened.

"For chalk we are an extensive customer to Albion; vermilion we get from the Chinese; red ochre from Newcastle, and yellow from Rochelle.

"Thus it appears that while our prolific production of the great staples of existence goes on augmenting from year to year in a wonderful manner, we are stipendiary to other lands for the great medical necessities and for many also used in the arts and manufactures. Owing to climatic influences this must always be so, and I shall have sufficiently accomplished my purpose in writing this letter if I have succeeded in setting forth, more clearly than dry statistical tables do, the dependency of the American States on commercial centres of Europe, and on all the remote produce markets of the world."

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[*] The Thibetan name for rhubarb is *chhu-rtsa*. The Hindus do not seem to have been acquainted with it, except in modern times, as there is no Sanskrit term for it, and the only terms in use in India are of modern origin, viz.: *revasam* or *revâchini* in Mahratti, and *râwand-i-chini*, or *rêwend-i-chini* in Hindi.

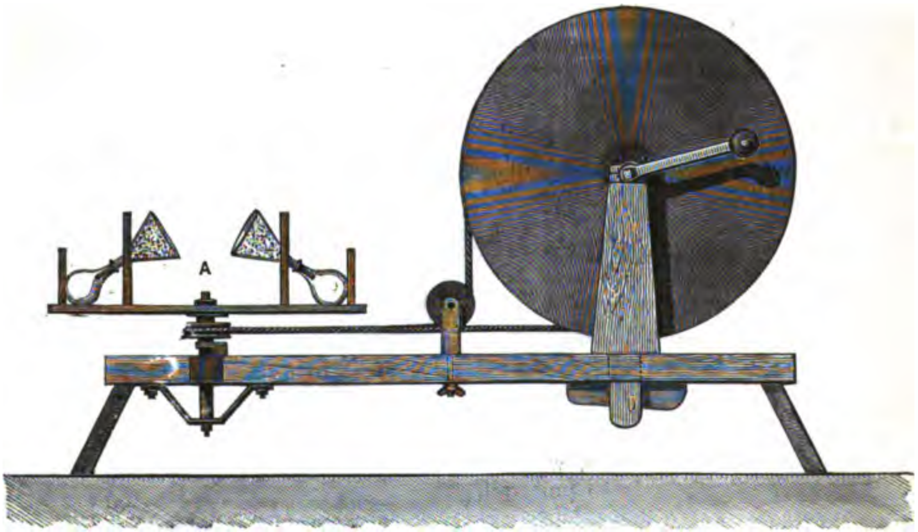
[†] *Poggendorff's Annalen*, 146, 155.

[‡] *Ann. d. Chem. u. Pharm.*, 176, 327.

Centrifugal Drying-Machine.

All needle-shaped crystals are apt to retain large quantities of mother-water in their interstices, and their purification, by means of repeated solution and crystallization, often causes serious losses. If the mother-liquor is allowed to remain in the salt, on drying it is carried towards the exterior of the mass by capillary attraction, and often imparts color to it. The removal of this mother-water may be imperfectly accomplished by various means, such as drying upon tiles, upon filtering paper, etc. But in most cases it is necessary to recover the absorbed solution by renewed exhaustion, which only multiplies the processes. Manufacturers on a large scale have long been in the habit of using specially constructed centrifugal machines for removing this mother-water, and the construction of these apparatuses as used in sugar-houses, epsom-salt works, etc., are probably known to all of our readers. Less known, however, is perhaps the simple apparatus which we are about to describe, and the illustration of which has been taken from *Mohr's Lehrbuch der Pharm. Technik.* The construction is exceedingly simple and intelligible without detailed description. The spindle at *A* carries a horizontal board or rotator provided with four upright pieces, the two inner ones of which contain an oblique tapering hole, into which the funnels may be firmly wedged in such a position, that the lower sides of the funnels lie in a horizontal line. It is best to use two equally heavy funnels and receivers, exclusively intended for this apparatus. The external uprights are intended merely as supports to the receiver. The cord which transmits the motion from the fly-wheel to the rotator should not be too thin, and at the same time somewhat elastic. A rubber-cord probably answers best.

When using the apparatus, the necks of the funnels are loosely closed with cotton, and enough of the crystals (previously drained by inclining the crystallizing dish) is placed into them. The orifice of the funnels may be covered with paper. Everything being in position, the wheel is set in motion, first gradually, then more rapidly, and after continuing some time, the motion is again gradually diminished. The expelled mother-liquid may now be emptied, and the operation repeated until no more liquid collects in the receivers. The crystals are then removed from the funnels, and exposed to the air for a few hours, when they are ready to be bottled. The funnels are of course again charged, until the whole of the crystals have been desiccated. This is the best method to obtain very pure crystals with the least amount of labor or solvents. The products generally are exceedingly handsome and but very little substance is lost. Mohr recommends the following dimensions as most suitable for pharmaceutical laboratories, calculated for funnels of four inches aperture: diameter of fly-wheel 19 inches, small wheels 2 inches; distance between inner uprights of rotator 10 inches.



Centrifugal Drying-Machine.

Analyses of Hair Dyes.

The London *Lancet* had recently twenty-one "hair restorers," and "hair dyes," analyzed. Out of the twenty-one examples examined, no less than fourteen were practically identical in their nature. They contained sulphur in suspension, and also lead in varying, but always in very considerable quantity. Three of these preparations bore American labels, the rest were English. The descriptions varied a good deal. Only one was plainly described on the label as poisonous if taken internally, while many were described as "perfectly harmless," "free from injurious substances," and so on. The prices varied from 25 cents to $1.50 per bottle.

Two more samples, one of them American, were found to contain lead and sulphur, but in a different form; the sulphur was present as hyposulphite, and, in fact, these preparations may be substantially imitated by adding hyposulphite of soda to a solution of a lead salt. A white precipitate first appears, which dissolves in excess, and the solution so obtained *does not give a precipitate with iodide of potassium*. This is noteworthy because in the handbill which accompanies one of the samples purchasers are warned against the dangerous hair preparations which contain lead, as likely to lead to paralysis of the brain and insanity, and are directed to test all preparations with *iodide of potassium*.

In another sample, an American one, no free or loosely-combined sulphur was found, but only lead, in considerable quantity.

Another of the preparations was contained in two bottles; in one of which ammonio-nitrate of silver, and in the other the pyrogallic acid, was detected. This therefore, belongs to an entirely different class from the preceding.

The remaining three preparations analyzed were intended for lightening instead of darkening the color of the hair. No substantial difference between these samples was detected. Each was found to contain a tolerably concentrated and slightly acidulated solution of peroxide of hydrogen. It is well known that this is the active agent in preparations of this kind. It can hardly be considered as poisonous, but its action on the hair is said to be injurious.

Recognition of Oil of Turpentine in other Essential Oils.

A NOVEL, and as the author appropriately calls it, somewhat primitive method has been devised by Callet for recognizing the presence of oil of turpentine in other essential oils. It is based upon the well-known fact that turpentine, either taken internally or inhaled, communicates to the urine a very marked odor of violets. The author has ascertained that no other essential oils, not even those of lemon, bergamot or peppermint, produce such an effect, and that the presence of other oils does not mask the characteristic odor produced by turpentine. As it may happen, by way of exception, that in certain persons the absorption of turpentine or its elimination by the kidneys may be imperfect, he recommends to make a preliminary trial with a few drops of pure oil of turpentine at least 24 hours previous to making the trial with an essential oil.—*Schweiz. Woch. f. Ph.*, 1877, 21.

Metric Doses of Alkaloids.[*]

FOR convenience and easy recollection these may be divided into two classes, one of which is prescribed only by *milligrammes* or fractions thereof, while the other is prescribed by *centigrammes*.

I.—DOSE BY MILLIGRAMMES.

	Maximum Dose in 24 hours.
Atropine....................	0.001 to 0.004
Atropine, sulphate...........	0.001 " 0.004
Digitaline...................	0.002 " 0.010
Coniïne.....................	0.001 " 0.003
Aconitine, cryst. (of Duquesnel)	" ¼
every 4 hours, up to.......	" 0.002
Eserine......................	¼ " 0.002
Hyoscyamine................	0.002 " 0.005
Daturine.....................	½ " 0.003
Curarine.....................	¼ " 0.002
Nicotine.....................	¼ " 0.002

II.—DOSE BY CENTIGRAMMES.

	Single Dose.	Maximum Dose in 24 hours.
Morphine and its salts...	0.01	0.10
Codeïne..............	0.02	0.10
Narceine..............	0.03	0.15
Veratrine..............	0.01	0.03
Strychnine and its salts..	0.01	0.03
Santonine..............	0.10	0.50
Quinine..............	0.25	1.00

Note on a Piper, called Jaborandi, in the Province of Rio Janeiro.[*]

BY A. GUBLER.

BESIDES the jaborandi of Dr. Coutinho (*Pilocarpus pennatifolius*), the sialogogue and sudorific properties of which are so remarkable, there exists in Brazil, as is known, a large number of plants bearing the same popular name, which are used against the bites of serpents, etc. All the botanical species, however, are included in two families, Rutaceæ and Piperaceæ. Among the latter, *Piper citrifolium* and *Piper reticulatum* have been mentioned as particularly efficacious. A jaborandi from the province of Rio Janeiro, which has been the subject of a note in the *Journal de Thérapeutique* for November 25, by Professor Gubler, appears to be referable to either of these species, which perhaps should be combined in one.

The plant is a shrub, usually attaining, but sometimes considerably exceeding, a metre in height. The stems are fasciculated at the base, simple, and denuded for half their length, cylindrical, very straight, and articulated like the bamboo; towards the top they bear dark green leaves that are alternate, shortly petiolate, oval-lanceolate or slightly obtuse. In the axils of these are sometimes found catkins of male flowers. The figure of the plant is from a sketch drawn by Dr. Jules Crevaux, and originally appeared in the *Journal de Thérapeutique*. A supply of the plant, collected by Dr. Da Veiga, of the Brazilian navy, accompanied the sketch, and has been investigated chemically, physiologically, and therapeutically.

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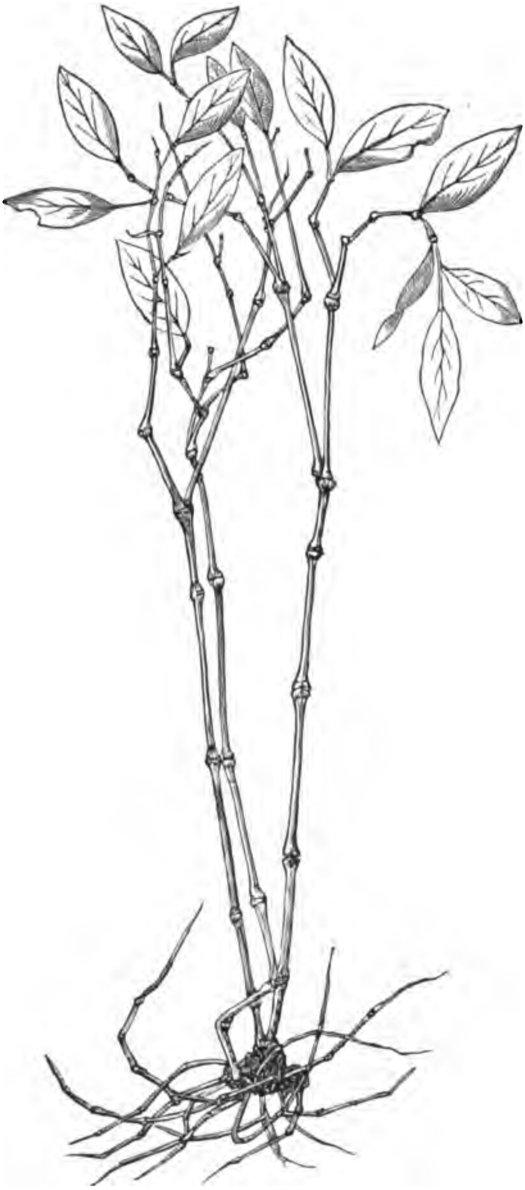
[*] For obvious reasons we have made the termination of all the names alike, namely—ine, instead of ia, which we otherwise prefer for true alkaloids.

[*] *Journal de Pharmacie et de Chimie* [4], vol. xxv, p. 128.

According to Professor Gubler, the entire plant exhales a slightly aromatic odor, which becomes more pronounced upon bruising the leaves between the fingers. When chewed the taste is at first slightly acid, then warm and aromatic, and finally very piquant, and comparable to that of pyrethrum root. This taste is met with in the stems, and especially in the roots, where it attains a high degree of intensity, chiefly in the moderately large portions, about the size of a crow quill, which are externally of a rather decided gray color. The more slender and whitish portions are rather insipid, and the finest have hardly any taste at all. These differences are dependent upon the constitution and thickness of the cortical layer, which appears to be the seat of the active principle.

When a picked fragment of the root is chewed, at first no sensation is produced on the palate; the prickling is first manifested at a short interval after the vegetable tissue becomes impregnated with saliva. It would appear that the active principle of the drug does not exist ready formed in the plant, but is due to a special fermentation in the presence of water, similar to that which sets free oil of bitter almonds or oil of mustard. When once manifested, the piquancy rapidly acquires great energy, being accompanied by painful shootings and vibratory tremblings of the tongue and lips, as though these organs were traversed by an electric discharge. At the same time a very active secretion of all the buccal glands becomes developed, and especially an extraordinarily abundant salivation. These phenomena persist for a few moments after the sapid pulp has been rejected, but then decrease and disappear, leaving a sensation of freshness and a certain degree of anæsthesia of the palate. After a few minutes, however, all the parts return to their normal state.



A Piper called Jaborandi (*P. reticulatum*).

Upon swallowing the saliva charged with the active principle, an impression of heat is produced at the back of the throat, which extends to the œsophagus and stomach, where it gives rise to a sensation resembling hunger.

The chemical composition has been studied by M. Hardy, who, in some preliminary experiments with infusions, was able to demonstrate the presence of an alkaloid.

Some leaves and stalks were therefore powdered, and left to macerate for four days with three times their weight of 90° alcohol acidulated with eight grammes of hydrochloric acid per litre. The alcohol was then decanted and fresh alcohol added, and this was repeated three times. The alcoholic solutions were concentrated by distillation, and the aqueous solution evaporated and decomposed by ammonia in the presence of excess of chloroform. Upon evaporation of the chloroform the base was left free, but still impure. It was therefore treated with water acidulated with hydrochloric acid, which dissolved the major part of it; the solution was filtered, evaporated, and again decomposed by ammonia in the presence of excess of chloroform. Upon evaporation of the chloroform solution the base was deposited, having a crystalline appearance and slightly yellowish tint. The base presents the characteristic reactions of alkaloids; its solution gives a white precipitate with iodide of mercury and potassium, and with iodine in iodide of potassium. Another portion of the leaves was distilled with water to obtain the volatile oil, but only a small quantity was collected, insufficient for investigation.

The alkaloid dissolved easily in water slightly acidulated with hydrochloric acid, and such a solution was used by Dr. Bochefontaine to study its physiological action upon animals. He found that it did not act upon the heart or influence the muscular contractility; it was not a convulsivant.

It appeared to have the power to prevent the mechanical or electric excitations of the mixed nerves, such as the sciatic, from being transmitted to the muscles. It appeared even to possess the paralyzing power at the outset, and this property would seem to distinguish it from curare. Indeed, the paralyzing action of curare is usually preceded by some slight spasmodic movements, which have not been observed in frogs poisoned with the alkaloid of false jaborandi.

Professor Gubler remarks that the effects observed after the administration of the plant to the human subject, although in small doses, had not led him to expect so violent an action from the alkaloid of the Rio piper. The first experiment, in 1875, with the comparatively fresh plant, did not reveal any great activity compared with the excessive power of *Pilocarpus pennatifolius*. Besides the peppery sensation in the mouth and throat, and the heat in the stomach, doses of four to six grammes of the leaves in infusion only caused slight salivation and diaphoresis. More recent experiments have been still less fruitful. In a case of acute albuminous nephritis its effects were absolutely *nil;* whilst in the same patient, on the following day, an infusion of four grains of *Pilocarpus* jaborandi in 200 grammes of water caused abundant salivation and sweating, and an increased excretion of urine.

From these negative facts Professor Gubler draws the following conclusions:

(1.) That there exists a striking difference between the mode of action of *Pilocarpus pennatifolius* and *Piper reticulatum.* With an insignificant topical action the *Pilocarpus* manifests a diffused action of great energy; the second, although very aggressive to the organs at the entrance to the primæ viæ, appears to be nearly inert when it once enters the circulation.

(2.) That this inertia of the piper is more apparent than real, and due to the insufficiency of the doses of the leaves, or, better still, of the root, to obtain physiological effects.

But if the alkaloid discovered by Mr. Hardy is a certain test of the efficacy of the *Piper reticulatum*, the experiments of M. Bochefontaine show that it will be advisable not to seek to obtain the first manifestations through the secretions, as the new agent is a poison of the motor system closely allied to curare.—*Pharmaceutical Journal and Transactions.*

Lac Ferri.

THIS mixture, which is used in Europe and has received its name from its resemblance to milk, consists of freshly precipitated ferric phosphate suspended in water. It is prepared by precipitating ferric chloride with sodium phosphate in very dilute solution, washing the precipitate and mixing it with water, so that 100 parts of the mixture contain 1 to 1.2 parts of ferric phosphate. The last traces of free acid may be removed, during the washing, by a small quantity of sodium carbonate; at all events, every trace of free acid must be removed. The precipitation may also be accomplished in neutral solution, by adding to the sodic phosphate an equivalent of sodium carbonate; but in this case the precipitate is less white, probably owing to the deposition of a small quantity of hydrated ferric oxide. The first-mentioned process of course produces a loss of a portion of ferric phosphate, which, however, is of no importance, in view of the cheapness of the ingredients. The amount of ferric phosphate is easily ascertained by evaporating a sample portion, after which the bulk of the mixture may easily be adjusted to the above-named strength.—*Pharm. Zeit.*, 1877, No. 7.

Phyllocyanin as a Reagent.

THE blue coloring matter of flowers, *phyllocyanin*, is extremely sensitive to minute traces of free alkali, and although the blue solution cannot be preserved, yet when a small quantity of sulphuric acid is added, the red solution thus produced may be kept for a long time without undergoing alteration. The quantity of acid added should not be so large as to give a distinct red color, but merely enough to change it to a dark purple, intermediate between the blue and red. In this state it is capable of showing distinctly the alkaline reaction caused by the presence of ammonia in rain-water, or by the plumbic hydrate in water which has been in contact with metallic lead. Added to a solution of one part of potassium hydrate, in 1,200,000 parts of water, it produces a permanent *blue* color, whilst with a solution in 200,000 parts of water a permanent *green* is obtained. It is therefore a much more delicate test than litmus, which scarcely gives any reaction with the last-mentioned solution.

Paper prepared with a solution of phyllocyanin must be kept in well-closed bottles; for although unaffected in a vacuum, or by air which has been exposed over sulphuric acid, yet when it is exposed freely to the air, the ammonia present in it turns the color blue.

The phyllocyanin is best obtained from the iris, the violet, or the purple verbena, by treating the petals with a small quantity of warm water; sulphuric acid is then added until it assumes a purple color, and the solution is preserved in a closed vessel excluded from the light.—G. PELLAGRI, *in Gaz. chim. Ital.*, vi., 35.

An Improved Bromine-Still.

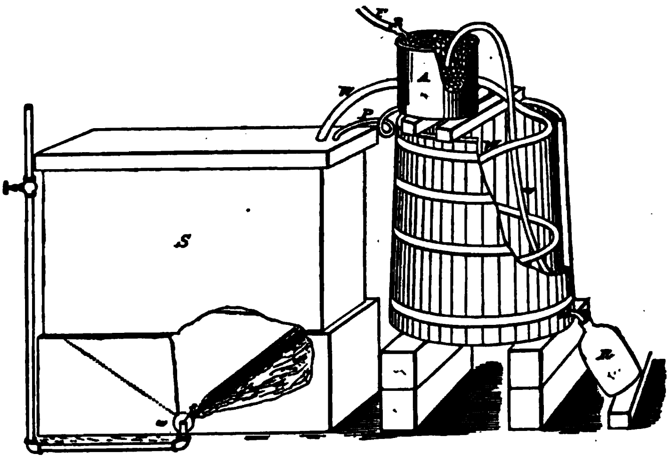
MR. W. ARVINE of Hartford City, W. Va., has devised a new apparatus, the object of which is to economize the material used in the manufacture of bromine by saving a portion of the oil of vitriol and manganese or alkaline chlorate, and by dispensing with the caustic alkali heretofore employed for absorbing the vapors and gases that escape uncondensed from the worms.

S is the still proper, wherein the bromine is generated by the usual methods.

This still may be made of any of the materials commonly used for the purpose, such as stone, terra-cotta, pottery ware, or lead; but this still has a funnel-shaped bottom or floor, in the form of an inverted cone, which may be more or less broad in proportion to its depth, according to the nature of materials used.

The apex of this funnel or cone is provided with two perforations; *s* for the admission of steam, and *w* for the withdrawal of the waste or exhausted materials. This still is provided with the condensing worm *W*, which is surrounded with cold water while in use, and the receiver *R* is also provided with a worm, *w*, which serves for additional condensing surface, and an outlet for the uncondensed gases and vapors of chlorine, chloride of bromine, air, etc., which escape in considerable quantity from the worm and receiver. The second worm, *w*, continues to the absorber *A*, which is preferably a stone or earthen jar of such size in relation to the still as experience would show to be necessary. Usually about one-twentieth the capacity or size of the still will suffice for the absorber.

The jar *A* is filled with suitable material such as coke, fragments, or pieces of stone, pottery, glass, or any convenient material, which, in a dry or moist state, may present sufficient and proper surface for the condensation and absorption desired. The small pipe shown in the drawing, and terminating in the faucet *F*, serves to convey bittern or other suitable liquid for absorbing the vapors and gases from the worm *w*, and conveying them back to the still *S*, by the curved pipe *P*.



A new Bromine-Still.

By this arrangement of still, the offensive gases and vapors which usually escape into the air are entirely absorbed and saved, and the air is allowed to escape freely from the top of the absorber. As the chlorine and chloride of bromine serve to liberate bromine from its natural combinations, their complete return to the still increases the amount of bromine obtained, and lessens the amount of manganese, or alkaline chlorate, and vitriol usually required, while the conical bottom of the still is easily rinsed clean with water, or is cleansed from sediment by the rapid withdrawal of the exhausted liquors.

The steam used in heating and agitating the contents of the still is most advantageously admitted at *s*, since it will only stir up the manganese and oil of vitriol sufficiently when admitted under the charge.

It has been customary in bromine making to introduce the pipe *w* into a dish containing a strong solution of caustic soda, which, when nearly saturated with chlorine, bromine, etc., was then transferred to the still, and sufficient vitriol and manganese added to liberate its bromine. In this method only a portion of the gases was absorbed, and the remainder escaped into the air, to the annoyance of the workmen and neighborhood, and to the loss of the manufacturer. In this arrangement the use of caustic alkali is dispensed with, and all the objections and disadvantages connected with its use, such as odor, chemicals used to decompose it, and loss of chlorine, are fully overcome, while the pressure exerted upon the still by the dipping of this waste-pipe, *w*, into the caustic solution is entirely removed by the arrangement herein described.—*Scient. Amer. Suppl.*

Leaves of the Button-Snake Root.

An extensive demand for the dry leaves of the button-snake root (*Liatris odoratissima*) has arisen among perfumers and tobacconists in the United States, and a subscriber of the *Chemist and Druggist* gives the following particulars regarding it. The "wild vanilla," as it is commonly called, and more vulgarly "hound's" tongue or deer tongue, is found in East and South Florida, and portions of lower Georgia. It grows abundantly on the edges of what are called "bays," *i.e.*, low, swampy places in the pine woods, which are partially grown over with bays (a species of magnolia.) The odor of the leaves strongly resembles the real vanilla. Most of the species of *Liatris* or button-snake root have a tuber-like root and long straight stems, upon which the numerous flower-heads are crowded in a close spike. A number of these are cultivated as ornamental plants. In *L. odoratissima* the lower leaves are from eight to twelve inches long, by two to three broad; the upper ones very small. The stem divides above into a broad branching panicle of purple flowers, which makes the plant a very attractive one. The fresh leaf has, when crushed, a disagreeable odor, but when pulled from the plant and dried in the shade for a day or so, it becomes highly fragrant, having a smell resembling vanilla or tonka bean, and similar to the sweet-scented vernal grass, but much stronger. This odor is developed by some chemical change made in the leaf during the process of drying, whereby the peculiar principle known as coumarine is formed.

Coumarine is found abundantly in the tonka bean of commerce, but so abundant is it in the liatris that it is often found in large quantities on the upper portions of a mass of the semi-dried leaves. It is readily sublimed by a low degree of heat (150°), and the heat generated in these masses or bundles is sufficient to sublime it on the upper or cooler layer. When found in this way, coumarine is composed of snow-white, needle-shaped crystals, exceedingly fragrant, the leaf looking as though it had been out all night in cold, frosty weather.

The dried leaves, as before mentioned, furnish an article of commerce, and one that is steadily growing in importance. They are gathered principally on the St. John's River and its tributaries by the poorer people, and sold by them in small lots to the country storekeeper in exchange for goods; by these latter they are sent to the balers and packers, who forward them to New York for home use and exportation. Pilatka, on the St. John's River, is the headquarters of the trade. One may often see 75 or 100 bales of 200 lbs. each lying on the wharves awaiting shipment. One dealer at this place has received an order for as large a quantity as 150,000 lbs. Adults can gather from 150 to 400 lbs. of the green leaves in a day; active boys and girls nearly as much. The green leaves are taken home and dried in the shade, and lose about 80 or 85 per cent. in weight; they are then sold for from three to six cents per lb., yielding quite a good return for the laborer. The packer bales and ships, and realizes from eight to twelve and a half cents per lb. The dried leaves are used to give a flavor to cigars, snuff, and smoking tobacco. For cigars it is sufficient to place the leaves and cigars in alternate layers in a box, and allow the whole to remain together for several days; for snuff the leaves are dried, ground and mixed; they are mixed with smoking tobacco after being shredded up or granulated. A small quantity is sufficient to flavor a large mass of tobacco. Their odor is given off much more intensely on a damp day than on a dry one. Although large quantities of these leaves are consumed in America, a much larger quantity is shipped to France and Germany, where they are rapidly growing in favor. It is quite probable they will soon be used much more extensively by perfumers, and as they are known to keep the "wicked moth away," they may usefully replace the strong-smelling camphor and tobacco-stems.

[King speaks of the varieties of Liatris as being celebrated for their alexipharmic powers in bites of venomous snakes. Puss states, that when bitten, the inhabitants of the Southern States bruise the bulbous roots and apply them to the wound, at the same time drinking freely of a decoction of them in milk. This, however, says King, requires confirmation. These plants are diuretic, with tonic, stimulant, and emmenagogue properties. A decoction of them is very efficacious in gonorrhœa, gleet, and nephritic diseases, in doses of from two to four fluid ounces, three or four times a day.

It has also been recommended for use as an injection in leucorrhœa, and as a gargle in sore throat.]

Extract of Rennet.

THE fact, that liquid rennet is liable to deterioration by long keeping, has been known for some time, and confirmed by the investigations of Hamarsten.* The preparation of small quantities of it, however, from fresh calves' stomachs offers so many inconveniences, that most apothecaries prefer to purchase their supply from manufacturers, although the activity of the preparation varies considerably with its age. The manufacturers themselves, who have suffered losses from spoiled stock, have thereby been induced to prepare an extract of rennet in form of powder. This is of a light-brown color, not hygroscopic, and curdles milk when used in the proportion of 1 : 300,000. All inert or useless constituents, which generally accompany the ordinary liquid rennet, are excluded in this preparation, which dissolves easily, and when filtered, yields a perfectly clear solution. For preparing liquid rennet (liquor seriparus) of the same strength as that prescribed in the German pharmacopœia, 12 grammes of this powder are dissolved in 2 kilos of white wine, which is best performed by shaking the powder first with about one-tenth part of the wine until the rennet-ferment has been dissolved, then adding the remainder, and finally filtering.—*Pharm. Zeit.*, No. 9.

Renovated Medicinal Herbs.

AROMATIC medicinal herbs, the odor of which would justify the suspicion of an artificial impregnation with essential oil, may be distinguished from natural ones by the following method. Place about 30 grammes of the suspected herb into a vessel, cover it with ½ litre of cold water, let it stand 24 hours in a cool place, filter, add to the filtrate a few grammes of ether, and cover the vessel with a well-fitting glass plate. On removing the latter, after the lapse of an hour, the odor of ether adhering to the lower side of the glass-plate is quickly followed by the distinct odor of the essential oil, if it had been added to the herb; while no odor will be perceived, if the herb was not manipulated.—*Schweiz. Woch. f. Pharm.*

Hydrobromic Acid.

DISSOLVE 1,191 grains of potassium bromide in 15 fl. oz. of water, then add 1,500 grains of crystallized tartaric acid, previously reduced to powder, and heat the solution, until the whole is dissolved. Set it aside in a cold place, frequently stirring. After 24 hours add to the mixture 2 pints of alcohol, and again set aside for 24 hours. Separate the liquid from the precipitated cream of tartar by filtration, recover the alcohol by distillation,* and evaporate the remaining solution of hydrobromic acid on a sand-bath, under constant stirring, until it has been brought to measure 16 fl. oz. This acid has a spec. grav. of 1.075, and contains 10 per cent. of HBr. By further evaporation it may be concentrated until its spec. grav. has attained 1.480, containing about 46 per cent. HBr. If heated beyond this point, hydrobromic acid vapor, instead of water, is given off.—CH. RICE.

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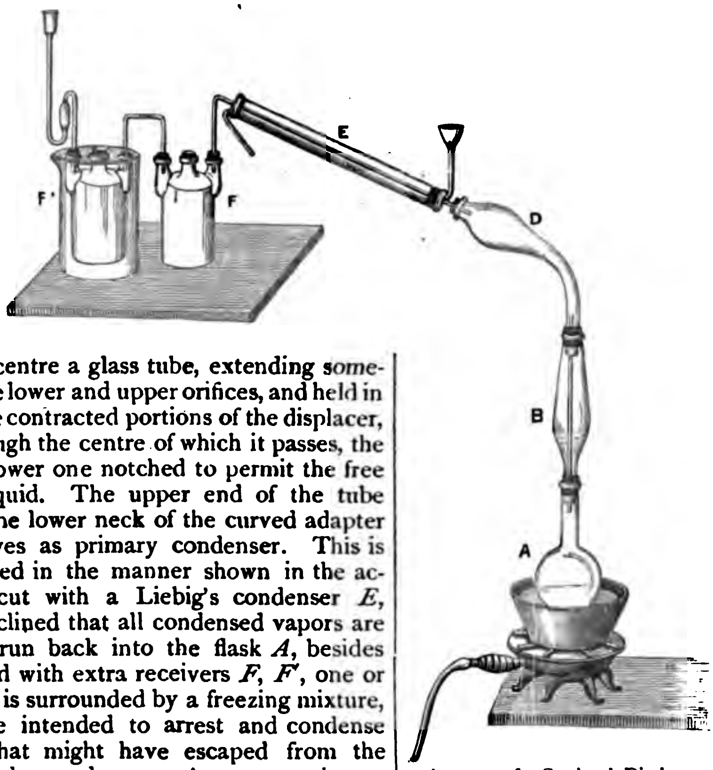
* *Arch. d. Pharm.*, 1876, Oct., 334.

Apparatus for Continual Displacement.

A CONVENIENT form of apparatus, which permits a continued digestion or percolation with volatile liquids is that proposed by Paul Cazeneuve and O. Caillol, in the *Répertoire de Pharmacie* of Feb. 25. The flask *A* is provided with a cork through which passes the neck of the elongated displacer *B*, which is designed to receive the substance to be exhausted. This displacer carries in its centre a glass tube, extending somewhat below the lower and upper orifices, and held in its place, in the contracted portions of the displacer, by corks, through the centre of which it passes, the edges of the lower one notched to permit the free passage of liquid. The upper end of the tube extends into the lower neck of the curved adapter *D*, which serves as primary condenser. This is again connected in the manner shown in the accompanying cut with a Liebig's condenser *E*, which is so inclined that all condensed vapors are compelled to run back into the flask *A*, besides being provided with extra receivers *F*, *F'*, one or both of which is surrounded by a freezing mixture, and which are intended to arrest and condense any vapors that might have escaped from the upper end of the condenser. As soon as the exhaustion of the material in *B* is completed, the condenser *E* may be connected with *D* by means of a bent tube and reversed, so as to incline the other way, by which means the condensed liquid may be recovered. Highly volatile liquids, such as ether or carbon disulphide, are apt to occasion trouble in ordinary reflux-condensers, on account of the drops of condensed liquid being met in their downward road by ascending vapors, which often expel the condensed liquid by force. In the present case, the flasks *F* and *F'*, are specially intended to prevent this loss. The last one of these is moreover provided with a safety-tube, containing mercury, whereby an additional safeguard is provided.



Apparatus for Continual Displacement.

Preparation of Liquid Chlorine.

THE preparation of this element in the liquid form from crystals of hydrous chlorine $(Cl,5H_2O)$ by the methods generally described is a somewhat tedious operation. Dr. A. B. Senior and Mr. A. J. G. Lowe, however, have devised a comparatively easy method, which is as follows: A stream of chlorine gas is passed through a bottle, about two-thirds full of water and surrounded by a freezing mixture of sodium sulphate and hydrochloric acid.—Care is taken to prevent the water from freezing, and frequent agitation accelerates the formation of the hydrous chlorine. When by the deposition of crystals the contents of the bottle are fairly thick, they are poured through a funnel into a piece of combustion tubing sealed at one end. A plug of cotton, attached to the end of a piece of twine, is inserted into the tube, and is slowly pressed downwards by means of a glass-rod, or piece of glass-tubing. In this way the crystals are separated from the chlorine water, and are compressed tightly in the bottom of the combustion tube, while the water fills the tube above the plug and is poured off. By means of the string the plug is withdrawn, when more wet crystals may be added and the process of straining repeated. The combustion tube should be placed in a freezing mixture from time to time. When sufficient hydrous chlorine has been collected, the tube containing it is surrounded by a freezing mixture, and carefully sealed within about two inches of the surface of the crystalline mass. When cool, it is surrounded by wire-gauze, and heated in a water or air bath to from 100° to 150° F. In the course of ten minutes the crystals will be completely decomposed, the liquid chlorine appearing below the chlorine water as a dense, deep-yellow oily-looking liquid.—*Pharm. Journ. & Trans.*, 1877, March 10.

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* Alcohol and moderately strong hydrobromic acid yield small quantities of ethyl bromide, or bromhydric ether; hence the acid should be sufficiently diluted. The above process furnishes a product, which is unobjectionable even when employed in the manufacture of photographic chemicals, while, if prepared by acting on bromine with sulphydric acid, the resulting product retains very faint traces of sulphur, undistinguishable by ordinary reagents, but betraying their presence by peculiar spots, or by fogging, upon the sensitized photographic plate.

Huber's Reagent for free Mineral Acids.

THIS reagent is a mixture of solution of ammonium molybdate and solution of potassium ferrocyanide, forming a clear yellowish liquid. If a small quantity of this be added to a colorless aqueous solution, containing, either alone, or in presence of salts of the alkalies and earths, small traces of free mineral acids (sulphuric, hydrochloric, nitric, phosphoric, arsenic, sulphurous, phosphorous acids), a reddish-yellow coloration is at once produced. If more than mere traces of these acids are present, the tint is more or less dark-brown, owing to the formation of a more or less copious precipitate, which, however, again disappears on adding the least excess of alkali. Boric and arsenious acids give no reaction. This reagent may find employment as indicator in acidimetry.—*Polyt. Notizbl.*, from *Ph. Centralh.*

Estimation of Sodium Sulphate in Epsom Salt.

FR. ANTHON recommends the following ready method for ascertaining the relative proportions of sodium and magnesium sulphates in a commercial sample of Epsom salt. A portion of the salt is dehydrated at 200° C.; 10 gm. of the dry substance are dissolved in 90 gm. of water, and the specific gravity of the solution is determined at 15° C. by means of a picnometer, or other sufficiently accurate instrument.* The following figures then indicate the percentage of pure magnesium sulphate in the sample of salt under examination:

Spec. Grav.		Magnesium sulphate.
1.09170	corresponds to	0 per cent.
1.09306	"	10 "
1.09442	"	20 "
1.09578	"	30 "
1.09714	"	40 "
1.09850	"	50 "
1.09986	"	60 "
1.10122	"	70 "
1.10258	"	80 "
1.10394	"	90 "
1.10530	"	100 "

—*Schweiz. W. f. Ph.*, from *Dingl. Pol. J.*

Estimation of Boracic Acid.

AN easy and practical method for the determination of boracic acid, which has long been a desideratum, appears to have been supplied by Mr. Paul Berg, an abstract of whose method we give in the following. It having been observed that the addition of strong alcohol to a solution of boracic acid or a borate, which has been partially precipitated by baryta, causes the complete separation of barium borate, there only remained the necessity to find an acid which would form both a sodium- and a barium-salt soluble in alcohol. Such an acid was found to be bromhydric acid, since NaBr, as well as $BaBr_2$, are easily soluble in 95 per cent. alcohol, and having the additional advantage that sodium borate is easily decomposed by it into sodium bromide and hydrated boracic acid.

Finely powdered borax is dissolved in hot water, introduced into a flask, colored with a little tincture of litmus, and enough bromhydric acid is added to produce an acid reaction. There is then in solution, sodium bromide, boracic acid, and the excess of bromhydric acid. The flask is now closed with a doubly-perforated cork, carrying a tube filled with pieces of caustic potassa, to absorb any carbonic acid which might be carried in by the air,* and a small funnel, containing a moistened filter. Cold saturated baryta-water is passed through the latter into the flask, until, after gently shaking, the precipitate which forms at first is redissolved. Freshly boiled alcohol of 95 per cent. is now poured in through the same funnel, so as to produce an alcoholic solution of about 55–60 per cent. in the flask, the potash-tube and funnel are removed, and replaced by short glass-rods, the flask is shaken and then set aside for 24 hours. The glass rods are then again removed, the potash-tube inserted into one of the perforations, and a syphon-tube into the other, by means of which most of the clear liquid may be removed. Alcohol of 75 per cent. having been rapidly poured in after removal of the syphon, the flask is again hermetically closed and set aside. When the sediment has been deposited, the liquid is removed in the same manner, the sediment, consisting of barium borate transferred to a tared filter, and washed with alcohol of 75 per cent., taking care to prevent free access of air, except towards the end. The filter and precipitate are finally dried in the exsiccator and weighed as barium (mono-) borate: BaO, B_2O_3+4 aq.—*Zeitsch. f. anal. Chem.*, 1877, p. 25.

Note on Two Species of Vegetable Wax.

MR. P. GUYOT gives the following reactions for distinguishing the wax of the South American wax-palm, *Ceroxylon Andicola*, or carnauba, from that of *Myrica cerifera*, or myrtle-wax:

Carnauba wax: This is generally of yellowish white color, very hard, and of smooth fracture.

Sulphuric acid poured on the fused wax develops a light yellow color and white and brown streaks; after a while, the color passes to dark brown. By agitation, the whole mass becomes deep red-brown.

Phosphoric acid bleaches the fused wax slightly.

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* Mohr-Westphal's balance may be used with great advantage. See pg. 78 of our March Number.

* The necessity of excluding carbonic acid arises from the subsequent presence of free baryta in the liquid, which might be converted into carbonate, and thereby contaminate the precipitated borate.

On raising the temperature a whitish emulsion is produced.

Nitric acid imparts to the wax a golden yellow color, which gradually turns reddish, intermixed with brown streaks. Hot nitric acid attacks the wax with violence.

Acid mercury nitrate, poured over the fused wax, does not color it; after the addition of sulphuric acid, a light brown color is developed.

Potassium bichromate and sulphuric acid, when brought in contact with the fused wax in a tube, turn it first brown, then black.

Myrtle-wax: Sulphuric acid produces immediately upon the fused wax a deep red-brown color, followed by dark brown and mahogany-brown. The reddish streaks are darker than the color of the liquid. By agitation and cooling, the mass assumes a pale dirty brown color.

Phosphoric acid does not alter the wax at its point of fusion, but on raising the temperature, it produces a white emulsion.

Nitric acid attacks the wax at a temperature of 48° C. (118.4° F.), coloring it uniformly golden yellow and converting it into a yellowish cream; no streaks are visible in the liquid.

Acid mercury nitrate, employed by itself, slightly bleaches the wax; on adding sulphuric acid, a yellowish color is developed which persists for some time.

Ammonia has but little effect upon this wax.—*Répert. de Pharm.*, 1876, 710.

California Manna.

THE *Druggists' Circular* has received from a California correspondent some cuttings of cedar and pine, covered with saccharine matter which old Californians call "honey dew," and which is only found in quantities in extremely dry seasons, when the trees are said to be literally covered with it. The specimens were submitted to Professor George Thurber, who furnishes the following notes:

"The specimens consist of terminal twigs of two conifers: a pine of the section with ternate leaves (three in a cluster or sheath), but which cannot be accurately identified without the cone; and the California white cedar, *Libocedrus decurrens.* Specimens of both are freely incrusted in a stalactitic manner with a nearly pure white substance. A friend who stood by as I opened the box at once declared them to be fragments of a Christmas tree; you made a similar comparison in your note accompanying them, which shows that the resemblance of the incrustation to candle drippings at once suggests itself. The taste recalls that of manna, and if a fragment is carefully separated, that is not in direct contact with the stem or leaf, it is free from any terebinthinate flavor. It is one of the numerous saccharine exudations classed under the head of *manna*, to indicate a common method of production, rather than identity of chemical characters.

"While the manna of commerce is furnished by a species of ash (*Fraxinus Ornus*), similar exudations, more or less valued in the countries where they occur, are produced by trees of widely different families. The *Leguminosæ* and *Rosaceæ* contain manna-bearing plants; a tamarisk, a cistus, a willow, and one or more oaks, afford similar products; even the genus Eucalyptus, of which so much is now expected, has a manna-yielding species; with all these very dissimilar plants producing sugary exudations, it is not so surprising that we should find them in a family where they would be least expected, judging from its ordinary 'naval store' products—the *Coniferæ* or Pine Family.

"Manna from the conifers is, however, no recent thing. The Briançon manna, employed in France early in the last century, is from a conifer, the European larch (*Larix Europæa*), and received its name from being collected in the mountains about Briançon, where it is still gathered by the peasants for their own use, though no longer in commerce. It is found in midsummer adhering to the leaves of the larch, and is collected early in the day, as it disappears with the heat of the sun. The old writers mention the Manna of Lebanon, which some authors say was afforded by the Cedar of Lebanon (*Cedrus Libani*), but others assert that it was only a synonym for gum mastic.

"One of the finest pines of that country of magnificent trees, our Pacific coast, is known to cultivators as Lambert's Pine (*Pinus Lambertiana*); this reaches the height of 200, and even 300 feet, and is useful as well as grand, its wood serving there for all the purposes that the white pine does with us. Ordinarily, this tree exudes only turpentine, and but little of that; but when the tree is injured by being partially burned, it yields a saccharine substance, formerly used by the settlers for sweetening their food, on which account the tree is known all along the coast as the 'Sugar Pine.' According to Prof. J. S. Newberry, Pacific R.R. Reports, vol. vi., Botany, p. 44, the laxative properties of this pine-sugar are known to the frontiersmen, who make use of it as a medicine. He says: 'Its resemblance in taste, appearance, and properties to *manna* strikes one instantly, and but for a slight terebinthine flavor it might be substituted for that drug without the knowledge of the druggist or physician, its physical and medical properties are so very like.'

"The pine, however, among the specimens in question, is not the sugar pine (*P. Lambertiana*), as that species belongs to the section having five leaves in a sheath, and shows that there are at least two species of our far Western pines which produce a manna. The observation as to its production by *Libocedrus* is, so far as I am aware, quite new, and adds one more to the manna-yielding genera.

"As to the cause of this exudation, so long as the phenomenon in the manna ash, where there has been abundant opportunity for study and observation, remains unexplained, it is hardly worth while to conjecture in the present case, in which we have only the results.

"Manna is exuded from this ash spontaneously, the tree being wounded merely to increase the product. It only occurs in warm and dry countries, and is greatly affected by the character of the season. We have in the specimens, and also in the sugar produced by the sugar-pine, not only an exudation, but one very unlike that usually yielded by the tree. The ordinary exudation from these trees, in common with others of the pine family, is turpentine, an oleo-resin. In these cases the character of the exudation is entirely changed, and we have a form of sugar belonging to an entirely different class of principles. In the sugar-pine this appears to be affected by destroying the vitality of the tree by partial burning; in the specimens before us it is ascribed to extreme drought.

"As some of the products resembling manna are due to the punctures of insects, I examined a portion of this by dissolving the sugar from a stem; a few fragments of what appear to be remains of *aphides* were found in the solution, but none attached to the twig. I have not been able to make any examination of the optical or other properties of the sugar."

Pepsin and its Preparation.

In *The Practitioner* for March, Prof. Oscar Liebreich, of the University of Berlin, contributes a valuable paper on "The Use of Pepsin in Medicine, and its Preparation," in which he refers to the attempts that have been made to employ the peptones as therapeutic digestive agents, and their failure owing to the rapidity with which they undergo decomposition. He expresses his belief that the field of usefulness of pepsin in practical therapeutics is very great, and that it may be still further extended with very great advantage. But the success of this remedy has been greatly hindered, and the result of clinical and of scientific experiment as to the results which may be obtained have been much confused, by the number of comparatively worthless preparations which have been employed, and by the instability and uncertainty of some of those preparations, which in their most active states have from time to time yielded excellent results, and have thus attained a good reputation. The uncertainty of a potent remedy is almost as injurious and even more misleading than the inertness of a popular remedy, and the treatment of disorders of digestion by pepsin has suffered greatly from both these drawbacks and from both these sources of fallacy.

Following the description of a number of conditions in which the employment of pepsin as a remedy is calculated to be of benefit to the patient, he remarks that there are certain counter-indications of the use of pepsin, to which it may be well to refer. Among them are carcinoma and ulceration of the stomach. When there is an ulcer of the stomach it is an object of treatment to afford a smooth covering to the ulcer by bismuth, or by the administration of nitrate of silver; to administer pepsin is to incur the risk of hastening the process of thinning, which there is already too much reason to fear from the action of the normal pepsin of the stomach.

"To fulfil the therapeutical indication of pepsin it is, however, necessary to have a pure and reliable sample. There are various methods of obtaining the article. Thus there is the method of Brücke, by treating the gastric juice (obtained by well-known methods), with a solution of cholesterine in ether; the cholesterine, being precipitated, enters into mechanical combination with the pepsin, and pure pepsin is obtained by removing the cholesterine by the further addition of ether.

"This form of dry pepsin is absolutely pure, and from it may be learned the qualities and powers of pepsin. But the method is too costly for general use, and its advantages are mainly for scientific purposes. There are various dry preparations of pepsin in powder and cake, which are well known, and, I believe, much used in medicine. But these preparations are very far from stable or reliable, and however active some of them may be when perfectly fresh, they do not remain active, and a large part of the pepsin powders prescribed are absolutely inert. Pepsin, although an albuminoid, differs, among other things, from ordinary albumen in being soluble in diluted alcohol. Advantage has been taken of this to prepare pepsin wines, but the alcohol does not prevent the ferment from undergoing change, and if a "pepsin wine" be examined after some time, it will be found not to contain a trace of pepsin, and to be absolutely devoid of digestive power. I found, many years ago, that to preserve the ferment of pepsin there is only one reliable agent, that is glycerine, the powerful preserver of vaccine-matter and other animal ferments. My first researches on this subject, made many years ago, have been amply confirmed by a great number of observations, and for all scientific experiments on digestion I have now for many years employed only these solutions. I strongly recommend practitioners, for all therapeutical purposes, to employ such a solution. In this way they will avoid the fallacies and disappointment due to the employment of deceptive and unequal preparations, and they will the more readily define the true limits of pepsin as a therapeutic agent, and its place in the armory of medicine. It is not to be reckoned among the most powerful and heroic remedies, but it is one which is of very agreeable and efficacious action; which very frequently gives exceedingly good results in large classes of ordinary and troublesome complaints, and which may be employed with confidence and advantage when its powers are stable and reliable."

[Those who have been accustomed for a number of years to make use of some of the dry preparations of pepsin manufacturered in this country can endorse us in saying that, however true Professor Liebreich's remarks may be regarding the quality of preparations offered for sale in the German market, they will not hold good on this side of the water. The dry preparations have, we believe, been the ones most largely employed in this country, and we are not aware that, after several years of trial, their effects have led to want of confidence among those who are capable of being judges.—Ed. N. R.]

Picric Cotton.

Dr. Eugene Curie has introduced a new method of dressing wounds, by means of cotton impregnated with picric acid. This substance, which is also called trinitro-phenic acid or trinitrophenol[*]), is but little soluble in cold water, requiring 160 parts thereof at 5° C., and 81 parts at 20° C.; but alcohol, ether, and benzine dissolve it readily. It imparts a light yellow color to textile fabrics, and is especially used in silk-dyeing. For the impregnation of cotton, almost any solvent of the acid will answer, but an ethereal solution gives the best results. When preparing large quantities, the ether used may be recovered by distillation. The proper proportions to prepare this new dressing, which has already been employed with good success in the hospitals of Paris, are as follows: Picric acid, 0.25 gm. (3.8 grains); ether or 94 per cent. alcohol, 25 gm. (386 grains); cotton, 10 gm. (154 grains); dissolve the acid in the menstruum, and impregnate the cotton uniformly with the solution.—From *Rép. de Pharm.*, 1876, 705.

Sodium Santonate.

The following are Lepage's directions for preparing this compound:

Santonin, in powder....	100 grammes.
Alcohol, 90 per cent....	500 "
Water, distilled........	500 "
Lime, burnt...........	80 "
Sodium carbonate......	90 "

Dissolve the santonin in the water and alcohol with a moderate heat, add to the solution the lime, previously slaked, and made into a milk with water. The liquid thereby assumes a magnificent rose-red color, which, however, disappears after 10 or 15 minutes, as soon as all the santonin has combined with lime. The heat is continued a short time, and the sodium carbonate, previously dissolved in double its weight of water, is added. After brisk stirring, the insoluble parts are allowed to settle, and the liquid is filtered. The filtrate is deprived of alcohol by distillation, and the remaining solution evaporated to 200–220 gm., which solidify into a compact mass during the next 12 hours. This is powdered, digested with 800 gm. of alcohol of 90 per cent, the solution filtered, the residue (sodium carbonate in excess) washed with alcohol, the alcohol recovered, and the remaining solution concentrated until a pellicle forms. After a few days most of the sodium santonate has crystallized in small needles. The mother-solution furnishes more crystals on further evaporation. The yield is 170–180 gm.

Sodium santonate, thus prepared, is perfectly white and contains 51 per cent. santonic acid (santonine). It is soluble at ordinary temperature in three parts of water and in four parts of alcohol of 90 per cent. The aqueous solution tastes decidedly bitter and has an alkaline reaction. Ammonium oxalate, barium chloride, and sodium carbonate must impart to it no cloudiness. Acids precipitate the santonin.—*Journ. de Ph. et de Ch.*

Purified Oleic Acid.

Mr. L. Wolff proposes the following method of obtaining oleic acid of sufficient purity to prepare the oleates at present in use: Oil of sweet almonds is saponified with caustic potassa; the soap is decomposed with tartaric acid, and washed with hot water to separate the precipitated potassium bitartrate from the mixture of oleic and palmitic acids. These are combined with litharge, forming oleo-palmitate of lead, from which petroleum benzine dissolves the oleate of lead, leaving the other salt as a residue. From the benzine solution the lead is precipitated by dilute hydrochloric acid, in form of lead chloride, and on evaporation of the benzine, oleic acid will remain, sufficiently pure for pharmaceutical purposes, giving clear and permanent solutions with the red and yellow varieties of mercuric oxide, as high as 30 per cent., if necessary. As crude commercial oleic acid can be bought at very low figures, this may be made the starting-point of the process, yielding a purified acid at a very small expense. To gain the same end, the simplest way is perhaps to use the ready-made oleo-palmitate of lead, the officinal lead-plaster, to dissolve it in benzine, and extract from it the oleic acid by precipitating the lead by hydrochloric acid. Oleic acid thus prepared has been used for some time, and found to answer better for the preparation of the oleates, than the article sold by some of the manufacturing chemists.—*Am. Journ. of Pharm.*

A New Method for administering Kousso.

Dr. Corre, in a communication to the *Bulletin de Thérapeutique* (1876, pg. 556) says: "Many have tried to bring kousso into such a pharmaceutical shape, that, while its properties as a tænicide remain unimpaired, it may be administered without repugnance. I think the following method, which I have successfully used, accomplishes the purpose. Treat 25 grammes of powdered kousso with 40 grammes of hot castor oil, and afterwards with 50 grammes of boiling water, by displacement; express, and combine the two percolates into an emulsion by means of yolk of egg, and add 40 drops of sulphuric ether. It may be sweetened with syrup and aromatized to taste. This is taken at one dose early in the morning. The worm is expelled during the third or fourth evacuation, after about 6 or 8 hours."

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[*] Also called carbazotic acid, Welter's Bitter, Chevreul's Bitter, bitter acid, indigo-bitter, etc. It results from the action of strong nitric acid upon many organic substances, as phenol, creasote, indigo, aloes, etc. Its preparation requires a close attention to temperature and other details, to avoid explosion; and its alkaline salts, when heated, explode with great violence.

Preparation of Pure Bismuth.

According to Thürach, pure bismuth may be obtained by the following method. Commercial bismuth is melted under a surface of potassium chlorate to which from two to five per cent. of sodium carbonate had previously been added: the quantity depending upon the amount of impurities in the bismuth. The resulting regulus is dissolved in the least quantity of nitric acid. The solution is to be mixed with a concentrated solution of oxalic acid in slight excess, and then considerably diluted. After the precipitate has settled, it is separated from the clear liquid by decantation and filtration and washed with cold water. If the precipitate is allowed to remain too long in contact with the supernatant liquid, it is likely to become contaminated with iron; but the subsequent ignition of the dry precipitate again removes this impurity. By ignition the oxalate splits into metal and carbonic acid. In presence of iron there is formed a bismutho-ferric oxide, which may be completely separated from the metal by hydrochloric acid. The chief aim of the author was to devise a process which would remove iron and silver as completely as possible, but traces of the latter metal may still remain.—*Schweiz. Woch. f. Ph.*, No. 5, from *Erdm. J. f. pract. Chem.*

RECENT PAPERS.

Journal de Pharmacie d'Anvers.

February. Depaire: "Estimation of Urea." [The author desired to arrive at a process which would give reliable results even in the hands of those persons, who are not specially trained in chemical manipulations. He adopts the process of Yvon and Esbach, with certain modifications. Sodium hypobromite is used with excess of an alkali, to decompose the urea, and the resulting nitrogen gas is measured over water, which retains the other products of the decomposition, namely, carbonic anhydride and water. 10 centigrammes of urea, decomposed by sodium hypobromite in alkaline solution, gives off a volume of nitrogen, which measures 37 cubic centimetres at 0° C., and 760 m.m. pressure. In order to avoid calculations, the plan of Yvon may be adopted, namely, to make a preliminary trial upon a known solution of urea just before examining the urine, and to compare the two results. Naturally, the amount of urea corresponding to the urine must be increased in the same ratio, as the figure found for 0.10 gm. of pure urea exceeds 37. Supposing 10 centigrammes of pure urea have been treated in the manner described, and have disengaged 40 c.c. of nitrogen, and 10 c.c. of an unknown solution of urea, or of urine, disengage under the same circumstances 66 c.c., the quantity of urea contained in the latter will be found as follows: $40 : 10 = 66 : x$; $x =$ 16.5 centigrammes. The result will be correct as long as there is not present an excess of uric acid or albumen. In the former case it is best to expose the urine to cold, to promote the crystallization of the uric acid and urates, which are then removed; and in the latter case the urine must be heated in a closed vessel, so as to coagulate the albumen.]

E. Meunier: "On Vegetable Albumen." [The author has studied some of the properties of plant-albumen, and sums up his results as follows: 1. The albumen, contained in fresh plant-tissues, exists there in a condition soluble in water. 2. On drying the plants, even at as low a temperature as 50° C. (122° F.), it becomes 'concentrated in the elementary organs,' and insoluble. 3. Boiling fresh unpounded plants in water, does not always coagulate the albumen. 4. During coagulation, albumen absorbs about 7 times its weight of water. 5. The liquid thus retained in the cells, fibres, and vessels contains active principles, which water can no longer extract. 6. Alcohol also coagulates the albumen, but causes less of the active principles to be retained by it. 7. Albumen not being capable of passing through cell-walls by osmosis, and being at the same time able to retain active principles, it is necessary, in order to obtain the whole of the latter, to break up the plant-tissue by pounding. 8. Desiccation of vegetables favors the coagulation of albumen, at comparatively low temperatures. 9. The coloration of aqueous macerates, made with fresh plants, proves that drying has produced chemical changes.]

Pharmaceutical Journal and Transactions. Nos. 347-350.

W. Lauder Lindsay: "Chrysophanic Acid and its Sources." [The author draws attention to the fact, that the most abundant source of this acid is the common yellow wall lichen, *Physcia parietina* Köhl, or *Parmelia parietina* Ach. Indeed, this was the very source in which Schrader, in 1819, first noticed it, although it was only in 1843 that Rochleder obtained it in a pure state.]

A. Senior and A. J. G. Lowe: "The Preparation of Liquid Chlorine." (See pg. 108.)

W. Dymock: "Notes on Indian Drugs." [*Pedalium Murex*, local name, Karonta and Burra-Gokhroo (see New Rem., March, 1877, pg. 90).—*Vitex Negundo*, local Lingoor; leaves are aromatic, and fruit is like a pepper corn, and also aromatic.—*Smilax ovalifolia*, local Gootee. The roots are used by the Portuguese at Goa as 'sarsaparilla.'—*Jatropha Curcas*, local Maghli Erendi; the root bark has an acrid taste, like fresh mezereon; it is applied externally in rheumatism.—*Mesua ferrea*, local Nagchumpa; bark is mildly astringent and feebly aromatic.—*Microrrhynchus sarmentosus*, local Almirao; roots are used at Goa as a substitute for taraxacum.—*Hydrocarpus inebrians*, local Kowtee; the oil is used for burning, and as a remedy for skin-diseases; it is at present on trial as a substitute for chaulmogra oil, being much cheaper (see New Rem., V., pg. 146).—*Sida acuta*, local Tukati; root is diuretic and demulcent.—*Xanthoxylon Rhetsa*, local Chirphul; root is used at Goa as a laxative.—*Anacardium occidentale*, local Kajoo; the Portuguese consider the spirit obtained from the torus to be a valuable diuretic, and apply it externally in rheumatism. The acrid oily principle, *cardol*, is prepared in large quantities in the Goa territory during the process of roasting the nuts, and is said to be used for tarring boats. Mr. Dymock bought 12 gallons at a country fair for three rupees (= 6 shill.).]

A. Gubler: "Note on a Piper, called Jaborandi, in the Province of Rio Janeiro." (See pg. 103.)

Archiv der Pharmacie.

January. R. Wolff: "On the Transmutation of Cantharidin in Spanish Flies." [Since dampness is known to destroy the activity of cantharides, and the active principle, cantharidin, is unaffected by dampness, there must be some other constituents present, which, by their own decomposition, induce that of the active principle. If a solution of potassa be added to a watery extract of old cantharides, and the mixture be heated, ammonia is given off. Now, although cantharidin does not combine directly with ammonia, it is possible that it may form a compound with it at the moment of its formation. The author indeed, appears to have succeeded in preparing such compounds, one of which, being crystalline, remained unaffected by hydrochloric acid, even when boiling, and by cold nitric acid, while hot nitric and cold sulphuric acid dissolved the crystals with decomposition, cantharidin and the respective ammonia-salt being formed. The nature of this and another compound obtained are, however, not yet determined. In conclusion, the author insists on the propriety of discarding all pharmacopœial preparations of cantharides, and substituting therefor the only active principle they contain, namely, cantharidin, which could be prepared from fresh flies at a very reasonable price, if the demand for it were greater.]

W. Kirchmann: "Discovery and Preparation of Amine-

Bases by means of preparing their Alums." [The author has originated a very easy process for obtaining certain volatile alkaloids by means of passing a stream of carbonic acid through the substance moistened with solution of soda and enclosed in a still. (See New Rem., v., 328.) He now states, that the readiest method of collecting the product is to convert it into an alum. An example will illustrate this: The dry fruits of *Heracleum asperum* are bruised, moistened with soda solution, placed into an air-tight vessel, immersed in a steam-bath, and a stream of carbonic acid is rapidly passed through it. A tube leading from the vessel into another containing alcohol and dilute sulphuric acid, carries over (in the present instance) ethereal oil and an amine-base, the latter uniting with the sulphuric acid, while the former is dissipated by the current of gas. The acid solution of the amine is supersaturated with alumina hydrate, filtered, the filtrate concentrated and a crystalline alum obtained, in which the amine occupies the place of the alkali. This alum is dissolved in water, the alumina is precipitated by soda and the base extracted by chloroform. The odor of this alkaloid, which is liquid, resembles that of coñia.]

Tellier: "On the Manufacture of Methylic Ether." (See May number.)

February. E. Dannenberg: "Medico-Legal Detection of Colchicin." [From this lengthy and valuable paper we can only abstract the statement of the author, that ether is much less capable of extracting colchicia from its acid aqueous solution than chloroform or amylic alcohol, which latter two, moreover, dissolve less foreign substances than the former.]

Ad. Grätzel: "On Creosote and Carbolic Acid." (See next number.)

R. Godeffroy: "On Artificial Butter." [The manufacture of 'Oleomargarine' has latterly assumed enormous proportions. Canada, this country, France and Germany are flooded with the substance. The principal basis of it is the 'kidney-fat' of the ox. The average amount of tallow obtained from an ox amounts to about 83 kilos., which yield the following end-products: butter, about 18 kilos; stearic acid, 24 kilos; oleic acid, 23.5 kilos; pure glycerine, 2.5 kilos.; refuse, 16.5 kilos.]

L'Union Pharmaceutique.

February. Ch. Patrouillard: "On the Yield of Solid Extracts." [Giving the quantities, which the author obtained from 1,000 parts of various medicinal plants: Calisaya bark yielded him 100 parts of aqueous extract of firm consistence; belladonna (fresh) yielded on an average 25 parts; hyoscyamus (fresh) yielded 18 parts the year before, and 33 last year; absinth furnished 155; colocynths, 197, and monesia, 250 parts of alcoholic extract.]

Pharmaceutische Zeitung für Russland. 1877. Nos. 1, 2.

Ed. Hirschsohn: "Contributions to the Chemistry of the more important Resins, Gum-Resins and Balsams." [As we shall have occasion to refer in the future to certain portions of this paper, we will give here only the author's slightly modified method for detecting the presence of *Umbelliferon*, a peculiar product of the destructive distillation of resins from umbelliferous plants, and also occurring ready-formed in *Daphne Mezereum*. Small quantities (about 0.5 to 1 gm.) of the substance are heated in a test-tube until the bottom thereof becomes red-hot. After cooling, the residue and the tarry deposit upon the inner sides of the tube are boiled with distilled water, and the solution filtered. If umbelliferon is present, a fine blue fluorescent liquid is obtained, which becomes cloudy on cooling. This cloudiness disappears after addition of a few drops of soda or potassa solution, and the liquid then assumes a still more intense fluorescence.]

Schweiz. Wochenschrift für Pharmacie. Nos. 6-10.

Stein: "Diluted Caustic." [It happens frequently that physicians desire sticks or cones of silver nitrate diluted with varying amounts of potassium nitrate, and of various diameters. These may be readily made by wrapping moistened parchment-paper around a glass rod of the desired calibre, pasting the edges, tying the lower end and drying. The proper mixture of silver and potassium nitrate having been gently fused in a small test-tube, it is poured into the mould standing in another test-tube, and when cold the paper is removed. The resulting sticks are completely white.]

F. A. Flückiger: "On the Coloring Matter of Saffron." [Stoddart's alleged test for saffron, by means of sugar and hydrochloric acid—see New Rem., v., 303—is erroneous. The color is caused by the sugar, and not by the saffron.]

A. Sauter: "American Plasters." [The author pays a high compliment to American elegant pharmacy for the successful introduction of handsome, reliable, and unsurpassed spread plasters, having caoutchouc as base, and being in every way superior to anything hitherto in use. The editor, however, adds, that their present high price forbids their general use. May our plaster-making friends take the hint!—Ed. N. R.]

Zeitschrift d. Oest. Apotheker Vereins. Nos. 5-7.

Wittstein: "Preservation of Watery Solution of Tartaric Acid." [Tartaric acid being the best reagent for potassium by the wet method, it would be highly desirable to be able to preserve a standard solution of it without the formation of fungi. This may be accomplished completely by adding to a solution of 1 part of tartaric acid in 5 parts of water, the one-thousandth part of salicylic acid.]

T. F. Hanausek: "On Gomo de Tuna." [This gum, which very much resembles tragacanth, is the product of *Opuntia Ficus Indica* Mill. (perhaps also of *Opuntia Tuna* Mill.), native of Venezuela and the Antilles.]

Pharmaceutische Zeitung. Nos. 11-18.

Max Kähler has devised a new *cork-borer*, each separate tube of which is provided with a permanent handle. To restore the sharp cutting edge of damaged borers a special tool is used, consisting of four slightly diverging steel blades fastened in one handle, between which the edge is gently turned until sufficiently ground on the outside. The tube is then pushed over the point of one of the blades, and by turning, the inner edge is ground in the same manner.]

Th. Husemann: "On Calabar Beans and their Active Principles." (See next number.)

Journal of the Chemical Society.

February. T. Fairley: "Study of Hydrogen Dioxide and of certain Peroxides." [The author communicates further researches on the formation of these salts, which are prepared by precipitating an alcoholic solution of the ordinary oxide by hydrogen dioxide. On adding to a solution of sodium hydrate containing about 20 per cent. of NaHO, a solution of H_2O_2 containing about 5 per cent. of the latter, and then common alcohol of 80 per cent. in moderate excess, there is rapidly formed a crystalline precipitate of sodium dioxide, $Na_2O_2,8H_2O$. The author has also prepared a series of salts containing high oxides of uranium.]

C. R. Alder Wright: "The Akaloids of Aconite." [The author has reinvestigated the products obtained by Groves and Duquesnel from *Aconitum ferox* and *A. Napellus;* a condensed summary of the results will be found in the May number.]

American Journal of Pharmacy.

March. L. Genois: "Tincture of Catechu." [The author proposes a modified formula to avoid the gelatinizing of the tincture. Catechu, free from dirt and in small pieces, 3 ℥; cinnamon in moderately coarse powder 2 ℥; water and alcohol, of each q.s. Digest the catechu in 1 pint of water at a temperature of about 100° F. until reduced to a cream, let cool, add a pint of alcohol, let stand for 12 hours and filter. Then with the filtrate percolate the cinnamon, previously mixed with an equal bulk of clean sand, and moderately packed in a conical glass percolator, and when the menstruum has just disappeared from the surface, pour on sufficient dilute alcohol to make the product measure 2 pints.]

J. C. Wharton: "The Keeping and Dispensing of Extracts." [Proposes to keep the more common extracts by making them, while fresh, into pills of certain sizes, representing ½, 1, 2, 3, 4 or 5 grains, and keeping them in earthen jars, covered with plenty of lycopodium. When weighing extracts, the portion taken from the jar may be covered with lycopodium, by rolling between the fingers dusted over with the powder; or lycopodium may be dusted over both scale-pans, and the extract be placed on one side, the weights on the other.]

J. M. MAISCH: "Note on the Detection of Castor Oil in Copaiba." [Prof. Wayne's test,—shaking the suspected balsam with three times its volume of petroleum benzine, which, if castor oil is present, is said to produce a milky mixture, separating into 2 layers, the lower one containing all the castor oil—must be modified so as to take not less than *ten* volumes of petroleum benzine to *one* volume of the suspected balsam. But even pure balsams sometimes produce in this manner a deposit, consisting of a resinous matter, and the absence of any deposited oily layer cannot be taken as a conclusive proof of the purity of the balsam.]

TH. G. DAVIS: "Tinctura Opii Deodorata." [Proposes the following modification of the Pharmacopœia process: Boil the opium with 12 fl. ℥ of water for half an hour, and strain with expression through muslin; boil residue with 8 fl. ℥ of water for 15 minutes and express; repeat the same operation with 4 fl. ℥ of water; mix the expressed liquids, evaporate to 4 fl. ℥; when nearly cold, add gradually, with agitation, 8 fl. ℥ of alcohol to precipitate gum, starch, etc.; filter, wash the filter with alcohol, and evaporate the filtrate to 4 fl. ℥ (the alcohol may be recovered by distillation); when cold, shake with ether, etc., as directed by the Pharmacopœia.]

Liebig's Annalen der Chemie. 185, 2, 3.

F. FRERICHS: "On some new Apparatus for Chemical Laboratories." [The author has constructed a new kind of filtering apparatus, for rapidly washing precipitates, in which he confines the substance to be washed between two filters, covering the inside of two shallow cups with perfectly fitting edges, and perforated sides, the wash-water being forced through them. The advantages are: great economy of time and perfect exclusion of air.]

L. MUTSCHLER: "On Cyclamin, Primulin, and Primula-Camphor." [The author brings additional information on cyclamin (compare our February number, p. 70), and concludes that there can be hardly any doubt but that *cyclamin* is identical with *saponin.*—Fresh Primula-roots were treated in the same manner as the roots of Cyclamen, and the identity of the resulting glucoside with cyclamin was placed beyond doubt.—On distilling the roots of *Primula officinalis*, the distillate separates after a time a semisolid oily mass, or handsome six-sided glossy plates, possessing the odor of fennel or anise, having a biting, afterwards sweet taste, almost insoluble in water, soluble in alcohol or ether, and having the composition $C_{22}H_{24}O_{10}$; this is termed Primula-camphor.]

E. SCHMIDT AND R. KÖPPEN: "On Veratrin." [Merck had assigned to veratria the formula $C_{32}H_{52}N_2O_8$ obtained from analyses of the crystallized alkaloid and its compound with gold; but Weigelin's renewed examination, a few years ago, seemed to throw doubt upon this, as he obtained results leading to the formula $C_{52}H_{86}N_2O_{16}$. The authors have subjected fifteen specimens of veratria to analysis in order to investigate the differences which were supposed to exist between the commercial and the crystalline veratria, and the amorphous variety, soluble in alcohol. One of these specimens was obtained from Lampe, Kaufmann & Co., of Berlin; another from the pharmaceutical museum; another from a drug-store; three from Merck, of Darmstadt; four from H. Trommsdorff, of Erfurt; five were prepared by the authors themselves. The analyses of *all* these specimens led to identical results, namely the formula: $C_{32}H_{50}NO_9$.]

O. HESSE: "Contributions to the Knowledge of Cinchona-Barks." [Referring to his former communication on *aricine* (see NEW REM., V., p. 172), the author states that the firm of Fr. Jobst has placed into his hands a lot of Cusco-bark, which was said to contain undoubtedly aricine. On examination this proved to be true, and in addition, the author also found it to contain another alkaloid, *cusconin.* Cusconin and aricine are not contained in the bark in a free state, since chloroform is unable to extract them; and, by the way, the author remarks that Howard's statement of having seen the ready-formed crystals of quinia in the cells of calisaya-bark (see NEW REM., V., p. 355), is contradicted by the impossibility of extracting this alkaloid with chloroform. The formula of crystallized cusconin was found to be $C_{23}H_{26}N_2O_4,2H_2O$; that of crystallized aricine is the same, minus the water.]

O. HESSE: "On Conchinine." [It may not be generally known to our readers, that the most eminent authority on the chemistry of cinchona alkaloids, Otto Hesse, is in the habit of denoting the alkaloid, which we call quinidine, by the name of *conchinine.* His principal reason for doing so is this, that the substance sold in the trade under the name of 'quinidine' is an entirely impure substance, although containing some of the pure alkaloid, which has never yet appeared in the market even in a tolerably pure condition. According to Hesse, *about nine-tenths of all 'Quinidia,' which is sent to market principally as sulphate, consists chiefly of cinchonidia.*

ORIGINAL COMMUNICATIONS.

MISCELLANEOUS CONTRIBUTIONS FROM THE ORIENT.

BY PROF. XAV. LANDERER, ATHENS, GREECE.

Cases of Poisoning.—Many cases of intentional poisoning have lately occurred in Greece; the number of suicides by poison has also increased alarmingly. Not long ago a Greek priest managed to administer corrosive sublimate in the chalice used during mass, to a brother priest, whom he wished to supplant. Corrosive sublimate has become a fashionable means of self-destruction among young girls. Choke-damp, carbonic acid, and carbonic oxide gas, are also frequently resorted to. One young girl committed suicide by taking a large quantity of petroleum.

On Myrtus Communis.—The berries of the common myrtle, which contain a balsamic resin, are sold upon the markets of the Levant under the name of Myrta-Myrta. The ancient Greek name was Μυρσίνη. These berries are an excellent remedy against blennorrhœa. Many cases are on record, when persons, who had previously employed various other remedies, such as cubebs, copaiva, etc., without benefit, were completely cured by the internal use of the fresh berries, in quantities of one or two ounces per day, continued for a few days. Whether the dried berries have the same effect, I am unable to say.

The berries of *Vitex Agnus Castus* have also been used for such purposes. They have been employed medicinally from the remotest times.

The word Myrtus, Μυρσίνη, is derived from *μύρον* - balsam, because the leaves as well as the fruits possess a balsamic odor; and the word balsam[*] has its origin from the Hebrew Baal-shemen "the master of odors."

Oriental Hair Restorers.—I hope to render a service to all those who suffer from falling out of hairs, by stating, that a pomade prepared with petroleum has been employed by many with great success. Others have found equal benefit by using a salve prepared with fresh garlic. These two substances appear to have a specific destructive influence upon zoophytes, and cryptogamic organisms. In order to stimulate the skin and to prevent the hair-bulbs from losing their vitality, it is customary to apply an aromatic wine, prepared from fresh myrtle-leaves or fruits, or, as the ladies of Chios are in the habit of doing, a wine flavored with the leaves of the mastix-tree (*Pistacia Lentiscus*), or else with those of the true Pistacia (*Pistacia vera*).

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[*] The word Balsam is no doubt the Hebrew *balsam*, or *balsemon*, as it occurs in Genesis and Leviticus; but its derivation from the compound mentioned in the text has long been abandoned. It belongs to the Chaldaic root *basam*, *basham*, "to be fragrant, to emit scent," the *l* being intercalated. The terms *apalsemon* and *aparsemā* occur in the Talmud.

Myrtus, and its many synonyms, as well as *myrrha*, the Hebrew and Arabic *mūr*, and the old Greek verb *μύρω to flow*, appear to belong together.

On Olibanum.—One of the most common vegetable products of the orient is the Libani, that is Olibanum. This is not only used as incense, but also as medicine, in form of a conserve or electuary (*μαντζούνι*, mantzuni), in chronic bronchitis, and even in commencing phthisis. This "panacea" is prepared from squills pounded into a pulp and mixed with powdered olibanum, derived from *male* trees. As is well known, the source of this gum resin is *Juniperus Lycia*, *J. Oxycedrus* and *J. Bermudiana*,[*] the former of which are also found growing in Syria upon the Libanon mountain, and the name olibanum as well as Libanon are derived from the Hebrew *lebonah*, signifying *milk*; the freshly exuding juice, namely, has a milk-white appearance. These coniferous plants are diœcious (the male and female flowers on separate trees); the male tree yields the finest tears (*λιβάνι ἀρσηνικόν*, libani arsenicon, male libani); the female tree yields an inferior product (*λιβάνι θηλυκόν*, libani thelycon, female libani).

Seamen's Remedy against Seasickness.—A very popular remedy against this baneful ailment, in common use among mariners in the Levant, is the daily internal use of iron. This is obtained in a very primitive way: a portion of the iron-rust adhering to the anchor and anchor-chain is scraped off and administered. At the same time a small pouch containing roasted salt and flowers of thyme is tied upon the region of the navel as firmly as can be borne. This is said to lessen and gradually to subdue the antiperistaltic motions of the stomach caused by the rolling of the vessel. This preparation was already known to the ancient Greeks as "thymian salt."[†] I know several seamen who have been cured by this treatment.

Oriental Remedies against Epilepsy.—Unfortunately epilepsy is a rather common disease among children and adults in Greece and the Levant. It is called Seleniasmos (*σεληνιασμός*, or *σεληνίασμα*) "moon-sickness" from Selene (*Σελήνη*) "the moon." Owing to the general failure of what may be called "regular remedies," the common people have recourse to various nostrums. One of these is fresh raven's bile (fel corvi nigri), taken from the still warm body of the bird and swallowed. Another is the slightly torrified root of *Helleborus niger* in powder. Still another is a decoction of the leaves and flowers of *Nerium Oleander*, which bears in Greece the name picrodaphne or rhododaphne. But since this watery decoction is unsupportably bitter and can only be swallowed with the greatest reluctance, it would be much more preferable to prepare an alcoholic or ethereal extract, or an aqueous extract with the aid of sulphuric acid, and to administer it in form of pills. The two last-named remedies deserve to be critically tested as to their therapeutic value. It is a singular coincidence, that there exists a secret remedy against epilepsy which is distributed to the afflicted by the clergy of a Benedictine monastery in Germany. This is a black powder prepared by carbonizing magpies (Corvus Pica), and has been in use for a long time.

(To be continued.)

CORRECTIONS.

We are indebted to Prof. GEORGE THURBER for the following corrections of some articles published in our February number: On page 53, left hand column, *Briotherium* should be *Bryophyllum calycinum*—a native of the East India Islands, Madagascar, etc., and which has become naturalized in most of the West Indies.

—"On page 58 of the same number, occurs an article on 'Rosin Weed,' in which the botanical name of the plant is given as *Silphium gummiferum*; but no such species is admitted by botanists. The name came about in this way. Elliott (*Sketch of Botany of South Carolina and Georgia*, 1824) scarcely knew the regular 'Rosin Weed,' *Silphium laciniatum*, and copied Linnaeus' description, in which no mention is made of its resiniferous character. He came across what he regarded as a closely related plant, upon which the resin was abundant, and he, supposing it to be a distinct species, described it as *S. gummiferum*, from a single specimen found in Alabama near the Georgia line. Torrey and Gray, in working up the 'Flora of North America' (1842), had access to Elliott's herbarium, and at once placed his *S. gummiferum* where it belonged, namely, with *S. laciniatum*. I was surprised to find it revived, as I learn from your journal, by King.—All through the older of the Western States 'Rosin Weed' is the common name for *S. laciniatum*, but in the 'far west,' it is called *compass*, or *polar plant*, as the large radical leaves generally stand with their edges north and south. This, however, is not so liberally resiniferous, as the allied *S. terebinthinaceum*, which goes by the name of *prairie-dock*, from the resemblance of its leaves to those of burdock. At least I have seen more resin on the latter, but I am inclined to think that the season has much to do with the amount of exudation, and perhaps insects may be concerned, though I do not know this to be so. A resinous juice is common to all the species, of which there are eight or ten, but in how many it exudes spontaneously, I have no means of knowing. The characters of the resin, and whether it is identical in the different species, would be good subjects for some enterprising student in pharmacy to investigate."

PROTAGON.

BY SAM'L R. PERCY, M.D.

IN the November number of NEW REMEDIES there appears an article under the above heading, by Dr. C. G. Polk, of Philadelphia. I should hardly need to refer to this article but that my name is mentioned in it. The chemistry of the article is full of errors and misrepresentations. Dr. Polk commenced this subject in the *Druggist's Circular* of March, 1875, under the head of "Tri-basic Hypophosphite of Olein and Glycerine." This article was nothing but a plagiarism from my essay on Phosphorus in the Transactions of the Am. Medical Asso., for 1872. I wrote to Dr. Polk upon the subject, but received no answer. In a later number of the *Circular* he has another article on the "Hypophosphite of Olein," in which he gives not only my views on this new chemical, but my very formula for preparing it, but modestly in this gives me the credit of having been the first to *publish* his discoveries.

In the article on Protagon in NEW REMEDIES he not only plagiarizes and claims as his own the discoveries I published in my essay of 1872, but he also embodies as his own conception the circular surrounding the Vitalized Hypophosphites in many of its parts. One sentence in that says: "Dr. Percy further proved that the phosphatic nutrient of the brain was not a phosphate, but an alkaloid hypophosphite, just such an one as he prepared in the laboratory, that both in fact were identical—the *protagon* of the brain and nervous system." This was printed and largely given to the profession in 1872, while in November, 1876, Dr. Polk enunciates these views as his own.

In this article Dr. Polk claims to have discovered the facts, that I published in 1872 after some ten years' labor upon it, more than eighteen years ago, that is before *Churchill* made known to the profession the value of the Hypophosphites as remedial agents. I am sorry Dr. Churchill does not know this great discoverer. It would gladden his sad heart to find a man so noble as to let him wear laurels "over a period of eighteen years," that should decorate the brows of Polk, for he pleases to claim them after all the world, but he, "over a period of eighteen years," has been writing on and using the Hypophosphites.

Dr. Polk has followed my formula so closely as to use as I recommended "Valentine's Beef Juice." It is a strange coincidence that he should have used this for eighteen years, when it has not been known for seven years.

I believe most of my professional brethren will acknowledge that I have labored diligently for the advancement of the science of Therapeutics, and that I have ever been willing to impart what I have learned, and have published and freely given away essays upon subjects that I deemed new, claiming only that I should receive the credit due to a discovery. In this instance, I published in 1872 that which Dr. Polk has gradually plagiarized from 1875 to the present. I do not accuse Dr. Polk of plagiarizing all that is printed in his article, for I am certain that no one capable of chemical discoveries could make so many chemical blunders as he has made.

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[*] Olibanum is now known to be derived from various species of *Boswellia*, nat. fam. Burseraceæ, natives of the hot and arid regions of Eastern Africa, near Cape Gardafui, and of the southern coast of Arabia. The species of *Juniperus*, which Prof. Landerer mentions, all yield a peculiar resin, possessing an agreeable odor, which is no doubt used in the manner stated in the text, but this is not true olibanum. *The latest and most exhaustive researches on the incense-trade of the ancients may be found in: A. Sprenger, Die alte Geographie Arabiens als Grundlage der Entwicklungsgeschichte des Semitismus.* Bern, 1875. §. 429–432.

[†] ἅλες θυμίται, Aristoph. Acharn., 1099.

Dr. Polk has not only attempted to plagiarize the chemical discovery, but has tried to introduce a medicinal compound to imitate the "Vitalized Phosphates" that have been before the attention of the profession for the last five years, and have been so well received that from the profession *only* throughout the country Messrs. Caswell & Hazard dispose of about 7,000 ounces monthly. Dr. Polk has offered for sale a substance which he calls Protagon, but which I cannot acknowledge to have much similarity to that element. To save the profession from disappointment, a disappointment that I experienced in using Dr. Polk's Protagon, they may obtain the following article prepared under my own supervision, and although it will not be found so stable as the Vitalized Phosphates, it will supply a great need—an active and not dangerous phosphoid:

PROTAGON.

The Phosphoid-Nitrogenous Element of the germinal portion of wheat, and of the brains of animals and fishes.

PREPARED UNDER THE SUPERVISION OF

SAM'L R. PERCY, M. D.

47 W. 38th St.

COMPOSITION IN 100 PARTS.	
The Phosphoid-Nitrogenous element, isolated, $C_{42}H_{79}N_6P_6O_{12}$ - - - - - - - - - - - - - - -	10 Parts.
Isolated Hypophosphite of Sodium, Na_3PO_2 - -	2 "
" " " Calcium, Ca_2PO_2 - -	2 "
" " " Potassium, K_3PO_2 -	2 "
" Animal and Vegetable Albumen, - - -	5 "
" Phospho-glyceric Acid, $C_3H_9P_2O_2$ - -	5 "
Free Hypophosphorous Acid, its solvent, H_3PO_2 -	5 "

DOSE—10 *drops in water after each meal and at bedtime.*

CASWELL, HAZARD & CO.,
General Agents,
FIFTH AVENUE HOTEL BUILDING.

47 W. THIRTY-EIGHTH ST.

ADULTERATED SODIUM PHOSPHATE.

TO THE EDITOR OF NEW REMEDIES.

DEAR SIR:—I herewith take pleasure in sending you the accompanying samples of Phosphate of Soda. Having very little spare time I could not extend the examinations any further than these three, nor on any other impurities than Sulphate of Soda, all of which I wish others would take up. On examination you will find

No. 1 is a good article, containing only faint traces of impurities.

No. 2 contains a rather large admixture of Sulphate of Soda; enough to place on the extreme limits of what may be allowed to pass.

No. 3, which was furnished to me with the label "Phosphate of Soda," by one of our largest drug houses, mainly consists of Sulphate of Soda, and may be said to contain the Phosphate as impurity. As these gentlemen took it rather coolly when their attention was called to the adulteration, I wish to call the attention of druggists to this article.

Phosphate of Soda is employed in our stores for a variety of purposes; and if, for instance, we have a freshly precipitated supposed Phosphate of Lime, which instead mostly consists of Sulphate of Lime, this may bring about some very disagreeable results. On the other hand, desiring to precipitate, from a given amount of Phosphate of Soda, a certain quantity of Iron Salt, this object would, in our case, be also very seriously interfered with.

The impure article appears to the eye not so glossy as the pure; is more brittle, and can be easily detected by addition of Barium Chloride in the presence of free muriatic acid.

Very truly yours, Z.

P. S.—Sample No. 3, having been removed some fourteen days from a bottle to a paper box, has lost most of its crystal water.

[We have examined the samples sent, and can confirm our correspondent's statement regarding their character.—ED. N. R.]

REPORT OF THE COMMITTEE ON PRIZE ESSAYS OF THE AMERICAN PHARMACEUTICAL ASSOCIATION.

THE undersigned Committee, having carefully examined the papers presented at the meeting of the American Pharmaceutical Association held at Philadelphia in September last, and printed in the Proceedings, have arrived at the decision, that none of the essays offered comes fully within the terms of the stipulations made by the donor, restricting the award "to the best essay or written contribution containing an *original* investigation of a medicinal substance, determining new properties or containing other meritorious contributions to knowledge; or for improved methods of determined merit, for the preparation of chemical or pharmacal products."

In view of the apparent difficulty of obtaining, by the present method, original communications of sufficient importance and merit to justify the awarding of a prize, the Committee would respectfully suggest the following modification of the present plan, which is believed to give better results, and does not conflict with any of the stipulations in the original grant.

1. The duties of the Committee on Prize Essays shall be twofold, viz.:

a. To select from the queries proposed at any one meeting, those, a satisfactory reply to which would be a valuable addition to our knowledge, and would be worth competing for. They shall publish these selected questions within four weeks after the annual meeting.

b. To examine and determine the merits of the answers to the queries designated as worthy to be competed for by their predecessors.

2. All answers presented with a view to compete for the prize shall be handed in anonymously, but distinguished by a motto, and accompanied by a sealed envelope, directed to the President, enclosing the author's name and address, and bearing on its face the same motto as the essay.

3. The Committee shall determine, within eight weeks after the annual meeting, which, if any, of these anonymous essays may be worthy of the prize, and they shall apprise the President of their decision, who shall communicate to them the name of the author. The unsuccessful papers shall be returned to the President, who alone shall be authorized to return them to their authors on demand. The successful essay shall then be handed to the Publishing Committee.

4. Should none of the papers, expressly offered as competing for the prize, be found deserving thereof, the Committee may select any other paper presented to the Association, either as answer to a query or as a volunteer essay, which they consider of sufficient merit to be entitled to the award.

Respectfully submitted,
CHARLES RICE,
GEORGE C. CLOSE,
EDW. P. NICHOLS,
Committee.

◆

Coton Hydrophile.—This is the French name for cotton which has been cleaned and steeped in a solution of soda, in the proportion of one to four parts; and this is allowed to dry without any twisting or pressure. In this way the cotton becomes capable of absorbing fluids readily, and may well replace the charpie.

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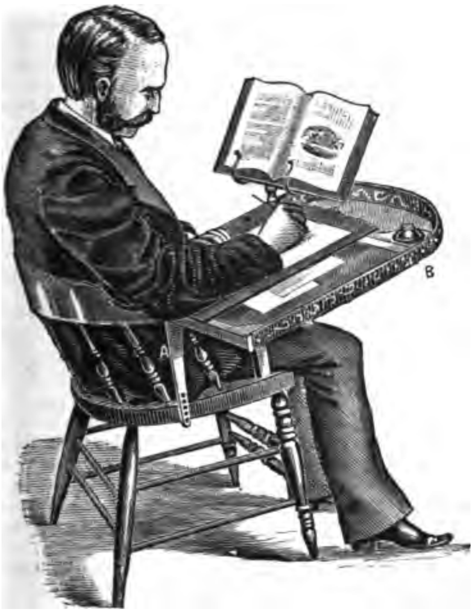
TRADE NOTES.

Writing-Desks.

MESSRS. JAS. A. PARK & Co. are the manufacturers of decidedly the best writing-desk for attachment to an office chair that we have yet seen, and we have been looking for one for some time. They offer two patterns, the accompanying illustration being of the simpler one, called the "*Yale*" desk. The "*Harvard*" differs from it in a number of features, the desk proper being wide enough to hold legal-cap paper and having a detachable side-leaf to hold books, shears, ruler, etc. The top of the "*Harvard*" can be slid either forward or backward to uncover a receptacle for paper and writing materials or to adjust the position of the paper without moving the writing-arm. It also has a nickel-plated paper clip at its upper end to hold the paper steady and allow the left hand to be put to other uses. The book-rest can also be shifted to the right-hand edge of the desk.



Both desks rest upon a bearing-plate on which they turn, and a wedge-shaped pin on the under side of the plate fits into a socket in the malleable iron post marked A in the cut. This arrangement permits the desk to be instantly removed when its attachment to the chair is not desirable. We have been using a "*Harvard*" desk for nearly a month, and would not do without it. The convenience of being able to adjust one's desk so as to suit the need for light, warmth, air, or bodily comfort is no small consideration for one who is obliged to do much writing or reading, and the fault of this is that it renders one so comfortable that he runs the risk of going to sleep over his night work. The "*Yale*" retails for $3.00, or $3.50 with book-holder, and the "*Harvard*" for $5.00, or $6.00 with the extra leaf or "wing-board." For these prices they will be forwarded by express, charges paid, on addressing the manufacturers, Jas. A. Park & Co., at Lansing, Michigan.

Carbolate, Salicylate and Sulphocarbolate of Quinia.

MESSRS. MCKESSON & ROBBINS of this city have for some time past been making considerable quantities of these salts. Having had ample opportunity to examine their quality, and knowing that the best chemical skill is employed in their production, we can conscientiously recommend these alkaloidal salts as strictly pure and reliable.

Kerosene-Oil Tank.

THE general use of kerosene-oil for illuminating and other purposes has led to its being sold by many druggists and apothecaries in small cities and villages. The custom would be even more common were it not for the fact that the oil is so liable to escape from the vessels in which it is stored, and, by its penetrating qualities, soak into floors and partitions and ruin any article of merchandise with which it comes in contact. Its odor is also an objection, and still another is the loss by spilling and evaporation which invariably results from attempting to retail it from original packages. Its combustible nature is another of its demerits when it has to be kept in any considerable quantity. Many persons have avoided these objections, in a degree, by keeping the barrel containing it in some outbuilding or in the back yard, but this plan involves increased trouble and occasional absence from the store. All of these drawbacks may be entirely avoided by using one of the admirable tanks constructed by Wilson & Blye, of 36 Dey Street, and which are rapidly coming into use all over the country.

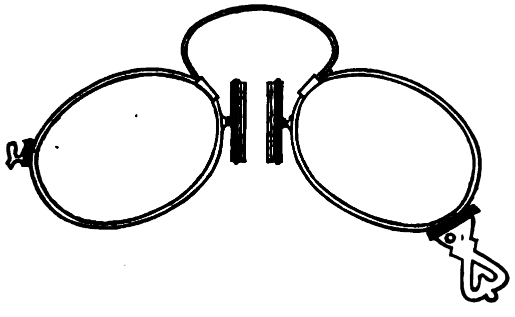
On throwing back the hood or cover, the pump, measures, shelf and drip-pan are exposed; by taking out the pump and running it into the bung-hole of the barrel, the oil may be transferred easily in five minutes without a possibility of waste.

After the oil is pumped into the tank, any shortage in the barrel may be readily and correctly ascertained by running the gauge rod into the tank. The work of measuring for retail is all done in the drip-pan; it is impossible to spill a drop, the unavoidable overflow running back into the tank; and here is another means of saving the cost of the tank, not to speak of the neatness and convenience of the method as compared with a faucet, can, or barrel.

The cover of the can fits closely, so there is no evaporation to affect and spoil other goods in the store. They are made in several sizes, from 6 to 250 gallons, and are richly and durably finished.

An Improvement in Eye-Glasses.

PEOPLE whose noses have not been of the shape which permits them to wear the *pince-nez* form of eye-glass will be interested in the invention of Mr. Frank P. Innarone, of Washington. The accompanying illustration does not entirely explain the nature of the invention, and a few words are necessary. The nose-clamps are composed of soft rubber resting on metal bases, and form not only a more comfortable surface for contact with the skin of the nose, but are less likely to slip than metal, hard-rubber or shell clamps. The chief feature, however, is a swivel-joint by means of which each clamp is connected with the frame. This joint permits the surface of the clamp to adapt itself to whatever plane is presented by the nose, and renders it easy to retain in position glasses so constructed, whatever the shape of the bridge of the nose may be. Those, also, who have no special difficulty of this sort will probably find that this variety of clamp adds much to their comfort. Considering the simplicity of the thing, it is remarkable that it should not have occurred to some one before now.



The Trömmer Extract of Malt Company's Preparations.

We have received from this Company, whose wares are now becoming pretty well known for their reliability, some samples of their new preparations, which we take pleasure in noticing. The Emulsion of Cod-Liver Oil with Malt Extract, owing to the action of the diastase resembling that of pancreatine, is quite permanent and palatable. It is not difficult to appreciate what a valuable remedy this may be in certain conditions, and the convenience of such a combination. The Extract of Malt with Pepsine is made according to the formula of Dr. S. M. Bemiss, of New Orleans, and Scheffer's Pepsine is said to be employed in its manufacture with pepsine to aid in the digestion of albuminoids, and diastase to hasten the conversion of the starch into glucose. One would appear to get in this just the combination which feeble digestion requires.

It is essential to the action of pepsine, however, that it should be assisted by an acid solution and a temperature of 100° Fah. The latter, of course, follows ingestion, but the acid, in the case of this preparation, requires to be added.

Since our former notice of the preparations of this company we have received several communications from physicians endorsing their merits when employed in conditions characterized by deficient nutrition.

The varieties here mentioned have for some time been in use abroad—where they have met with considerable favor. We do not know that they have been offered for sale in this country before.

Spongoid Capsicum Drafts—For sale by Theo. Ricksecker, 148 William Street; are among the most satisfactory things we have ever seen offered for use as a rubefacient. They never blister.

NOTES, QUERIES AND ANSWERS.

[*Under this heading we shall, to the best of our ability, endeavor to answer such questions addressed to us as come within the scope of this journal, providing they are accompanied by the name and address of the writer. Answers to queries received after the 5th of the month will lie over until the next issue.*]

◆

Grindelia Robusta (J. D., Klamath Agency, Oregon).—This is a Californian composite plant, having somewhat the resemblance of a small sunflower. It grows from 1 to 3 feet in height, and has bright yellow flowers, in heads, 1 or 2 inches in diameter, flowering from June to October. Before flowering, the unexpanded heads or buds secrete a quantity of resinous matter, white and sticky, like a balsam, which is finally, after the flower expands, distributed like varnish over the petals of the flower. The whole plant at this season is resinous. When growing in dry hills, it is stiff and rigid, with narrow, thin leaves; but in damp localities it is more robust and succulent, with wide, fleshy leaves. We do not know whether the plant has been met with in the more northern portions of Oregon, but in your latitude it is quite likely to occur.

Wild Parsnip (Same).—Sium latifolium has been examined chemically by Mr. And. R. Porter, whose results were published in the *Am. Journ. of Pharm.*, August, 1876, p. 348; and, in abstract, in New Rem., 1876, p. 277. The price of pure *arsenic acid* is about 12 cents per ounce.—There is no complete treatise as yet on the Flora of the Pacific Coast.—Prof. Asa Gray is just publishing the Flora of California, being a portion of the Survey Documents of that State, which you can purchase at cost from the Secretary of the State of California.

Sage-brush (Same).—This name is applied in the western portions of the United States to various species of *Artemisia*, covering large tracts of uncultivated lands in Nevada, Oregon, and other States and Territories.

Salicin (B. Ch., U. S. A.).—Your inquiry is an eminently proper one, and we take great pleasure in answering it as fully as it deserves. In the first place, it must be premised that not all willow and poplar species contain salicin. The statements of various investigators, however, as to the presence or absence of salicin in certain species are very contradictory, and it is quite likely that the same species growing in different localities may contain entirely different percentages of the glucoside. The richest species, however, are acknowledged to be *Salix Helix* L., *Salix pentandra* L., and *Salix præcox* Hoppe, the barks of which contain about 3 or 4 per cent. It is easy to determine the presence of salicin in a given bark, owing to the peculiar reaction which this substance gives with cold concentrated sulphuric acid: the latter, namely, dissolves salicin with a fine red color, and on adding water, the solution deposits a red powder, the so-called rutilin. Any poplar or willow bark which has not a rather bitter taste, and is not colored red by drops of concentrated sulphuric acid, may be regarded as devoid of or deficient in salicin. Should you succeed in finding the proper species, you may adopt any of the following processes for its preparation: 1 part of the fine-cut bark is exhausted with boiling water, the liquid concentrated to 3 parts, digested for 24 hours with ⅛ part of finely levigated oxide of lead made into a magma with water, and filtered. The filtrate is concentrated to a syrup and set aside, when salicin crystallizes out. The mother-liquor may once more be treated with oxide of lead, whereby a second crop of crystals is obtained. In manufacturing on a large scale, this mother-water is added to the first concentration of the next decoction. The product is purified by recrystallization. (Duflos). Or, the watery decoction of the bark is precipitated by a solution of subacetate of lead, the filtrate is boiled with chalk until the excess of the lead salt is decomposed, the liquid again filtered, and the filtrate concentrated to an extract. This is exhausted with alcohol of 34 per cent., and the solution allowed to crystallize. (Peschier). Or, 1 part of the bark is macerated in a dilute milk of lime (containing ¼ part of lime), for 24 hours, and the mixture boiled for a half-hour: this is repeated with fresh milk of lime, the obtained and decanted liquids are mixed, and, after addition of ⅛ part of animal charcoal, evaporated to dryness. The residue is powdered, exhausted with 82 per cent. alcohol, and the solution deprived of its alcohol by distillation. In the residuary liquid the salicin crystallizes in yellowish grains, which are purified by a second crystallization with the aid of animal charcoal. (Erdmann).

Arsenic Phosphide. (Dr. P., N. Y.)—Gmelin's Chemistry, IV., p. 271: "A mixture of equal parts of arsenic and phosphorus placed in a flask and heated in the sand-bath to low redness yields a brownish black sublimate, which exhibits a conchoidal black metallic fracture, is permanent in the air, and, when heated in the air, burns at first with a slight phosphorus flame, and then forms arsenious acid (Langrebe, *Schw.*, 60, 184).—Pelletier, by melting together phosphorus and arsenic, or by boiling phosphorus under water with metallic arsenic or arsenious acid, obtained a black shining mass, which oxidized in the air. Landgrebe regards the substance thus formed as a mere mixture."

Pycnanthemum Linifolium. (L. A. R., M.D.)—The information you desire is contained in a paper read by Mr. Charles Mohr, of Mobile, Ala., at the last meeting of the American Pharm. Association. See the *Proceedings*. Experiments with a small supply are being made in this city, and will in due time be communicated through these pages, if the results warrant it.

Extractum Belladonnæ. (G. I., N. Y.)—The query, which is the *best* extract, American or English or German, cannot be answered categorically. There are *two* extracts, one prepared from the *fresh* plant, the other from the *dry*. That prepared from the fresh plant naturally can only be obtained of good quality, where the plant grows *wild*, as cultivation is unfavorable to the development of the active principle, atropia. Hence, if skilfully prepared, the English or German inspissated extract must be superior to ours. The *alcoholic* extract does not depend for its quality on geographical location, but may be made anywhere, where discrimination and money procure the best crude material; and we assure you that the American market affords as good, if not better, alcoholic extract of belladonna, as any other.

Silicate of Soda. (L. & Co., Junction City, Oregon).—This compound can only be made profitably on a large scale, and it would require too much space to describe its preparation intelligently in these columns. You will obtain all the information you probably need, by consulting several lengthy papers on its manufacture, properties, and uses by J. W. Ordway, of Manchester, N. H., contained in the *American Journal of Science and Arts* for 1861 and 1862. See also NEW REM., vol. iv., p. 35.

Fluid Extract of Jaborandi and Pilocarpine. (J. F., Phil., Pa.)—A good formula for the fluid extract would be the following: Take 16 troy ounces of jaborandi leaves in powder, moisten them with dilute alcohol, and pack them into a conical percolator. Pour dilute alcohol on top, and when the liquid begins to drop from the orifice, close the latter and allow to macerate for 24 hours. Then remove the cork and collect 14 fl. oz. of percolate, which set aside. Then collect 24 fl. oz. more of percolate, which are to be reduced by evaporation to 2 fl. oz. Mix these with the 14 fl. oz. of reserved portion and filter, if necessary.—On the preparation of pilocarpine, see NEW REM., v., 80; 331.

Strychnia Sulphate. (M. P. W. A., Spencer, Iowa).—This salt requires about 48 parts of water for solution, and no other solvent, that we are aware of, will make a more concentrated solution. The addition of glycerine does not appear to accomplish much. When requiring a more concentrated solution, you had better use the Acetate, which is a more soluble salt.—Your "Enclosure" has not come to hand.

Flavoring Extracts. (R., Salem, Mass.)—The following formulæ will answer:

STRAWBERRY-EXTRACT (artificial): Nitrous ether and oil of wintergreen, each 1 part; acetic ether and butyric ether, each 5 parts; glycerine 2 parts. Mix.

PINEAPPLE-EXTRACT (artificial): Butyrate of ethyl, 5 parts; butyrate of amyl, 10 parts; aldehyde and chloroform, each 1 part; glycerine 3 parts; alcohol 100 parts. Mix.

ROSE-EXTRACT: Red rose leaves 2 oz.; oil of rose 1 drachm; alcohol, deodorized, 2 pints. Macerate the rose leaves in the alcohol for eight days, strain and express; then dissolve in it the oil, and filter.

Liquid Water-proof Shoe Polish (F. B. K., Freeport, Ill.)—A compound such as you describe in your note, which has a gloss, and will not rub off, can be produced by some kind of varnish, for which the following is a good formula: Dissolve 1 oz. of India rubber in 1 pint of oil of turpentine by the aid of a water-bath, preventing loss; dissolve 15 oz. of pure beeswax, 2 oz. of Burgundy pitch, and 1 oz. of gum olibanum in 4 pints of oil of turpentine; then rub 2 oz. of the finest lamp-black with 1 pint of oil of turpentine to a smooth mixture, and mix the three solutions. Add now ½ pint of copal varnish and afterwards 5 pints of lime-water in quantities of 4 oz. at a time, stirring after each addition, and continuing the stirring after the whole of it is added for some time afterwards. The mixture must always be well stirred up before any is taken out for use.

Richardson's Styptic Colloid (J. M., N. Y.)—The original formula of this preparation contained only about 4⅙ per cent. of tannic acid, which was often found insufficient for styptic purposes. We have prepared it for many years with nearly 17 per cent. of tannic acid. This is the formula: Dissolve 320 grs. of tannic acid in a mixture of 1½ fl. oz. of alcohol and 2½ fl. oz. of ether, add 240 grs. of gun-cotton, and dissolve by shaking.

Solution of Bromide of Arsenic (R., Richmond, Ind.)—By a mistake in making up the journal, the answer to your query has been placed on page 126, among the Prescriptions and Formulæ.

NEW PATENTS AND LAWS.

[*We will furnish gratis, to subscribers, any information relating to new patents which can be obtained from the Official Gazette of the Patent Office; and for 50c. will give copies of the drawings of such as are illustrated. Electrotypes of the illustrations contained in* NEW REMEDIES *will be furnished for 50c. per square inch.*

TRADE-MARKS REGISTERED IN U. S. PATENT OFFICE.

Certificates dated Feb. 6, 1877.

4,332. **Zinc White Lead.**—Chicago White Lead and Oil Co., Chicago, Ill. "An elaborate device in colors, and in the central part a landscape, with mountains in the distance, the most conspicuous features being the word 'MONTANA' on a red ribbon above the landscape."

4,333 to 4,339. **White Lead.**—The same. "The ship and word-symbol 'Ironsides."—The landscape, etc., as described, and the word 'SUNBEAM.'—The representation of a buffalo's head, and the word-symbol 'BUFFALO.'—The word 'Durhamville.'—An elaborate device, the predominant color of which is red, with some yellow and less blue, and printed on a quadrangular label, with floriate end-pieces and concentric circles in the central part. Within the smaller circle, in white letters on a blue ground, is the monogram of this company. Outside thereof, in circular form, is the motto 'Honi soit qui mal y pense,' and above it a yellow crown, surmounted by a lion, and at each side English standards, flags, and a streamer.—The circular border on the blue ground, and the fac-simile of the signature of E. W. Blatchford, Pres't.—The representation of the eagle, flags, crown, and swords, and the words 'CROWN IMPERIAL.'"

4,340, 4,341. **Green Paint.**—The same. "The representation of the bird and the word 'PARROQUET.' The 'LIZARD,' and the representation of a lizard."

4,342. **White Lead.**—The same. "Compound word 'NORTH-WESTERN."

4,343. **Paints.**—Harrison Brothers & Co., Philadelphia, Pa. A black surface containing a central cube-shaped figure of a contrasted color.

4,345. **Hair Preparation.**—Mary E. Johnson, Newburyport, Mass. "The word-symbol 'CALURANTINE.'"

4,347. **Composition of Superphosphate of Lime.**—Charles V. Mapes, New York, N. Y. "The name 'Mapes' and the circle, as represented."

4,351. **Medical Compounds.**—Wallace & Posthwait, Columbus Grove, O. "The word-symbol 'NATIONAL,' and the red and blue colors running lengthwise of the label, as represented.

Certificates dated February 13, 1877.

4,364. **Eye-Salve.**—Pettit & Barker, Fredonia, N. Y. (Re-registration.) "The letters and words 'Pettit's American Eye-Salve,' and 'Dr. Pettit's Genuine American Eye-Salve.'"

4,367. **Tooth Powder.**—N. R. Scott & Son, Worcester, Mass. "The word 'Lily' and the pot of lilies, as shown."

4,368. **Borax.**—Smith Brothers, San Francisco, Cal., and New York, N. Y. "The copy of our firm-signature, and the monogram composed of the letters 'S. B.' on a scroll, and the ornamental dark groundwork of the white letters."

4,374. **Cordial.**—The firm of J. A. Gilka, Berlin, Prussia, Germany. "A group of medals arranged to fill the upper field of a label, in combination with our firm-name, 'J. A. Gilka.'"

4,376. **Liniments.**—Dwight Whiting, Boston, Mass. "The word-symbol 'LINIMENTINE.'"

Certificates dated February 20, 1877.

4,379. **Medical Preparation.**—John Camrick, Bayonne, N. J. "The word-symbol 'YERBINE.'"

4,381. **Medicinal Preparations.**—R. Cotter & Co., Houston, Texas. "The letters 'I X L.'"

4,383. **Paints.**—Heath & Milligan, Chicago, Ill. "The letters 'H. M.,' arranged as a monogram upon a circular ground."

4,384. **White Lead.**—The same. "The word-symbol 'WESTERN PRIDE.'"

4,385. **White Lead.**—The same. "The word-symbol 'AMERICAN PRIDE.'"

4,386. **Paints.**—The same. "The word-symbol 'CRYLIGHT.'"

4,388. **Soap.**—Robinson Bros. & Co., Boston, Mass. "The arbitrary words 'SILVER LINE.'"

4,391. **Soap.**—Lautz Bros. & Co., Buffalo, N. Y. "The word-symbol 'OX MARROW.'"

4,393. **A Medicinal Preparation.**—Sullivan N. Smith, Jr., Dayton, Ohio. "The word-symbol 'WINE OF TAR.'"

4,394 and 4,395. **Olive Oil.**—D. St. Amant & Son, New York, N. Y. Case A. "The coat-of-arms, together with the lower frame or shield, containing the monogram composed of the letters 'G. S. A.'" Case B. "The arbitrarily-selected word 'Gourmets.'"

4,396. **Soap.**—John E. Weaver, Lancaster, Pa. "The word-symbol 'FLAG.'"

LABELS.

Certificates dated February 13, 1877.

973. "**Medicated Paper.**"—Gayetty & Co., Brooklyn, N. Y.

Certificates dated February 20, 1877.

976. "**Superior Pure White Lead.**"—Heath & Milligan, Chicago, Ill.

977. "**Superfine Coach Color.**"—The same.

978. "**Genuine Burnt Umber.**"—The same.

979. "**De Witt's Carbolated Tar Soap.**"—Thos. De Witt Kavana, New York, N. Y.

980. "**New York Nipple Shield.**"—George M. Nichols, Brooklyn, N. Y.

983. "**East India Pain Cure.**"—Donnell & Mansir, Richmond, Me.

Certificates dated February 27, 1877.

989. "**Dr. A. Q. Simmons' Liver Medicine.**"—M. A. Thedford, Chattanooga, Tenn.

990. "**Whitman's Instantaneous Chocolate.**"—Stephen F. Whitman & Son, Philadelphia, Pa.

PATENTS.

Patents granted January 30, 1877.

186,694. **Invalid Bedsteads.**—W. Spanner, Toronto, Ontario, Canada, assignor to B. Morton, same place.

186,700. **Hinged Splints.**—G. S. Adams, Philadelphia, Pa. The hinge permits lateral motion of one part of the splint upon the other. The two parts are adjusted by a long screw-nut with threads upon both outside and inside.

186,712. **Flavoring Powders.**—Wm. P. Clotworthy, Baltimore, Md., assignor to Smith, Hanway & Co. As a new article of food, flavoring powders compounded of fluid extracts or essential oils, and for flavoring food and table luxuries, and starch, meal, flour, or other dry absorbents.

186,726. **Veterinary Surgical Instruments.**—L. W. Hamilton, Pendleton, Oregon.

186,738. **Processes of Making a Pigment Base.**—Henry Knight, Liverpool, Eng. The process of making a pigment base, which consists in adding to a solution of zinc sulphate a solution of calcic sulphide; to the filtrate a solution of sodic sulphide, and to the filtrate of this latter reaction a solution of calcic chloride, the several resulting precipitates being collected together.

186,743. **Soda-Carbonating Apparatus.**—J. McCloskey, East Cambridge, Mass. Carbonate of soda is packed into a vessel around vertical pins which are afterwards removed, forming passages through which carbonic acid gas traverses the mass, and causing a large extent of surface to be exposed.

186,760. **Trusses.**—E. H. Ryno, Wayland, Mich.

186,764. **Apparatus for Drawing Still Waters.**—E. Ripley Sibley, St. Louis, Mo.

186,798. **Bottling-Machines.**—A. Christin, Chicago, Ill. The filling-tube is provided at the bottom with hooks for grasping the stopper, and at the top it ends in an air-chamber of adjustable capacity to receive the air or gas displaced in the bottle while being filled.

186,860. **Apparatus for the Hydration of Chlorine Gas.**—W. Maynard, Philadelphia, Pa.

Reissued.

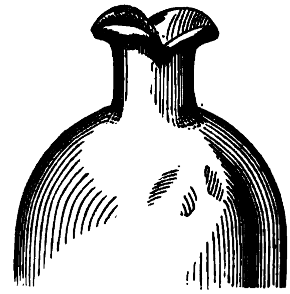
7,481. **Explosive Compositions.**—Egbert Judson, San Francisco, Cal. Patent No. 183,764, dated Oct. 31, 1876. The following formula is given: Take sulphur, resin, asphalt, nitrate of soda, anthracite coal; let the sulphur, resin, and asphalt be melted together and well stirred; into this mixture put the nitrate of soda and coal, thoroughly pulverized; stir until thoroughly varnished, and so cool that the grains will not adhere to each other. The dry mixture is then ready for the nitro-glycerine.

7,485. **Processes and Apparatus for Evaporating and Calcining Alkaline Solutions.**—M. L. Keen, Stroudsburg, and Hugh Burgess, Royer's Ford, Pa., assignors to American Wood Paper Co. Patent No. 46,244, dated Feb. 7, 1865.

Patents granted February 6, 1877.

186,935. **Manufacture of Glucose.**—S. H. Johnson, Stratford, England. The method of treating grain in the manufacture of glucose, which consists in macerating with dilute acid, drawing off the unabsorbed acid, macerating the material with clean water, again macerating in dilute acid, and then drawing off all unabsorbed acid preparatory to treatment in a converter.

186,938. **Glass Bottles.**—Wm. C. King, Union Township, Allegheny County, assignor to King, Son & Co., Pittsburgh, Pa. A glass bottle, the mouth of which has a series of crimps, four or more in number, at regular intervals.

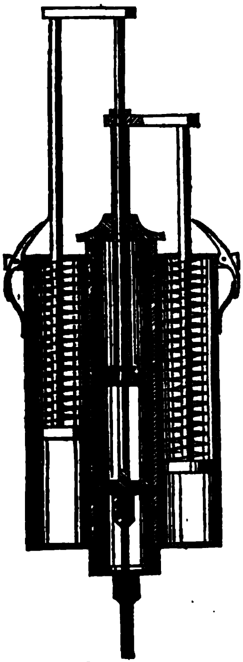


No. 186,938.

186,940. **Evaporating-Pans.**—James T. Lockey, Northwich, England.

186,951. **Processes for Refining Crude Ozokerite.**—C. M. Pielsticker, London, England. The process of refining crude ozokerite by melting in an agitator, then adding sulphuric acid, agitating, and, when a drawn sample, freed from impurities, presents a yellow color, drawing off the impurities and washing the ozokerite repeatedly with hot water, allowing it again to settle, and then agitating with carbonate of baryta and caustic soda; when sufficiently agitated drawing off the spent chemicals, and adding to the ozokerite a saponifiable oil or fat, rosin, turpentine, or soap, and caustic soda, agitating, allowing to settle, drawing off impurities, washing repeatedly in hot water, allowing to rest, and when the ozokerite is of a light yellow color, filtering it through animal charcoal, so as to obtain a whitish wax-like material, suitable for similar purposes for which beeswax, paraffine, and stearine are now in use.

187,031. **Hypodermic Syringes.**—J. McMorries, Newberry, S. C. Two spring pistons are simultaneously operated upon releasing two spring pawls. One piston carries the hollow needle, and the other injects the medicated liquid.



No. 187,031.

187,079. **Compositions for Preserving Food.**—C. G. Am Ende, Hoboken, N. J. A composition of boracic and acetic acid.

187,105. **Galvanic Soles.**—E. H. Craw, Vallejo, Cal. Assignor of one-half his right to W. W. Vanderbilt.

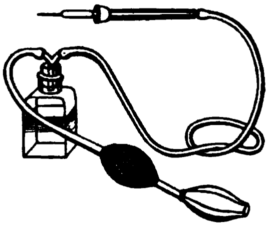
187,155. **Explosive Compounds.**—S. J. Mackie, Camille A. Faure, and G. French, Faversham, England. An explosive compound consisting of a mixture substantially in the proportions specified of nitre, cellulose, reduced to an impalpable powder, nitrate of baryta, and saltpetre.

Reissued.

7,501. **Wire Fastenings for Bottle-Stoppers.**—H. W. Yerington, Oceanic, N. J., assignor to R. C. Anthony, New York City. Patent No. 162,451, dated April 20, 1875.

Patents granted February 13, 1877.

187,245. **Soap Compositions.**—J. W. Bartlett, Moline, Ill., assignor to himself and M. Witherell, same place. A machine-soap, formed of rain-water, pulverized lime, soap-stone, carbonate of potash, chloride of lime, concentrated lye, golden machine-oil, cotton-seed oil, lard-oil, and melted lard.



No. 187,301.

187,250. **Manufacture of Malt-Syrups or Extracts.**—O. F. Boomer, and H. R. Randall, Brooklyn, N. Y. In the manufacture of malt-syrup or extract, the treatment of the grain or other starch-bearing substance, previously ground or mechanically reduced to a suitable degree of fineness with an alkaline solution.

187,279. **Machines for Cutting off Gelatine Capsules.**—F. A. Hubel, Detroit, Mich. A series of cog-wheels, operated by a crank, has a series of pendent spring-arms, which carry rotating cutting-disks. By a movement of the crank the disks are carried around the closed tube which forms the capsule, thus evenly cutting off all at a determined point.

187,286. **Ventilating Faucets.**—Ole H. Larson, Fort Dodge, Iowa.

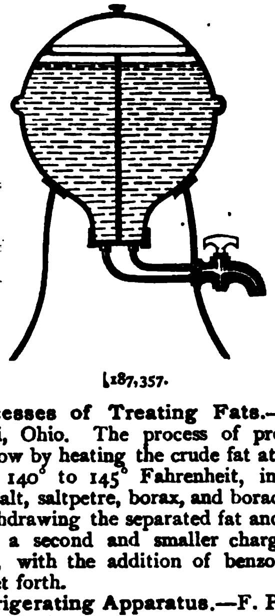
187,301. **Cauterizing Apparatus.**—C. A. Paquelin, Paris, France. The combustion of a hydrocarbon is used to heat a cauterizing-iron of tubular form, and both ends of the combustion tube terminate within an outer sheath.

187,302. **Machines for Triturating and Polishing Metallic Powders.**—D. D. Parmelee, New York, assignor to A. W. Billings, Brooklyn, N. Y.

187,303. **Manufacture of Metallic Paints and Powders.**—D. D. Parmelee, New York, assignor to A. W. Billings, Brooklyn, N. Y.

187,310. **Voltaic Plasters.**—W. B. Potter, Boston, Mass. The improved voltaic plaster having the voltaic plates secured to the back of the plaster, and holes cut through the plaster, above the plates, as and for the purpose specified; so that, when in use, the plaster shall lie between the plates and the skin.

187,313. **Processes of Manufacturing Malt Extract.**—H. R. Randall, Brooklyn, N. Y. The processes of manufacturing malt extract from raw or unmalted grain, or starch-bearing material of brewers' use, the same comprising the successive steps of first eliminating the starch from the starch-bearing material by subjecting ground grain to the mashing process at a high temperature, about 180° Fahrenheit, and of subsequently subjecting such eliminated starch to the action of malt at a lower temperature, of about 160°, substantially as described.



187,357.

187,327. **Processes of Treating Fats.**—A. Springer, Cincinnati, Ohio. The process of producing edible fat or tallow by heating the crude fat at a temperature of about 140° to 145° Fahrenheit, in contact with common salt, saltpetre, borax, and boracic and salicylic acids, withdrawing the separated fat and incorporating therewith a second and smaller charge of the above chemicals, with the addition of benzoic acid, in the manner set forth.

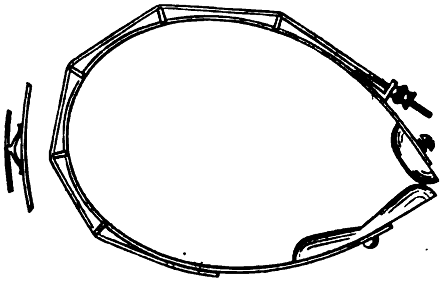
187,354. **Refrigerating Apparatus.**—F. P. E. Carre and E. Jullien, Paris, France.

187,357. **Apparatus for the Manufacture of Mineral Water.**—E. Cornelis, New York, assignor to himself and J. M. Elliott, same place. The combination with a vessel divided into two parts by a vertical partition of two pipes attached to the bottom of said vessel, communicating with the chambers in the opposite sides of partition, and terminating in a two-way cock.

187,413. **Processes for Producing Artificial Cold by Means of Anhydrous Sulphurous Oxide.**—R. P. Pictet, Geneva, Switzerland.

187,446. **Soda Water Apparatus.**—O. Zwietush, Milwaukee, Wis.

187,428. **Trusses.**—John W. Sutton, New York, N. Y. Brief. A supplemental spring-brace over the usual spring body-band serves, as it is shortened or lengthened, to add to or take from the pressure of the pad.



187,428.

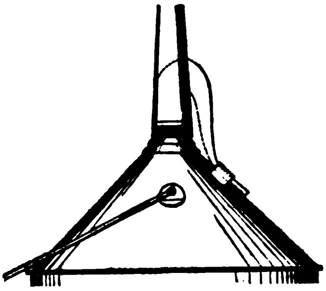
Patents granted February 20, 1877.

187,468. **Apparatus for Extracting Tannin.**—Thos. W. Johnson, New York, assignor to H. C. Johnson, Astoria, N. Y. Water is admitted to the leaches from tank above, through a rotary sprinkler that may be raised or lowered according to the depth of material in the leaches, while steam enters through foraminous columns and jacket; the solution of tannin passes by its own gravity to settling-tanks, where the sediment is deposited upon a series of platforms, one above another, having glass tubes projecting upwards outside the tank to show the depth of sediment deposited. The clear liquor next runs into the highest of a series of semi-cylindrical evaporating-tanks, having steam-pipes coiled in the bottom through the series, and from the lowermost one into cooling-tanks under the evaporators. The condensers are provided with a number of revolving disks upon a horizontal shaft, upon which hot air is forced from a perforated pipe.

187,478. **Vents for Barrels, etc.**—G. W. Moore, Auburn, N. Y.

187,550. **Strainer-Cups.**—Jacob W. Oberholtzer, Hiawatha, Kans.

187,561. **Flexible Can-Spouts.** — Wm. R. Rightor, Helena, Ark. The combination of a flexible spout and a keeper, with the top of a can, to adapt said spout to serve as a spout and as a stopper. Substantially as shown.



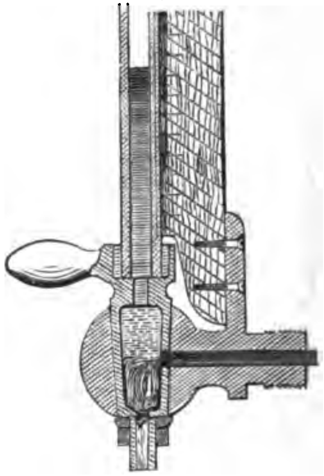
187,561.

187,603. **Artificial Legs.**—Jas. Dawes, Rochester, N.Y. (filed Jan. 22, 1877).

187,623. **Measuring-Faucets.**—Francis H. Hambleton, Md. A flow-rate indicator for liquids, consisting essentially of a chamber having three openings—one connecting with the source of supply, one with a discharge nozzle, and one with a stand-pipe—for showing the head and thereby indicating the rate of flow.

187,625. **Speculums.**—Evans B. Harding, Northampton, Mass. The rear ends of the blades, as well as the forward, are expanded by means of a thumb-screw, lever, and rack-bar. The rear ends are united by a slot and pins.

187,644. **Compositions for Preserving Animal and Vegetable Matter.**—J. K. Korhessen, Allegheny, Pa. A compound for preserving animal and vegetable matter, consisting of calcined alum, sugar, nitre, sal-soda, salt, and water.



187,623.

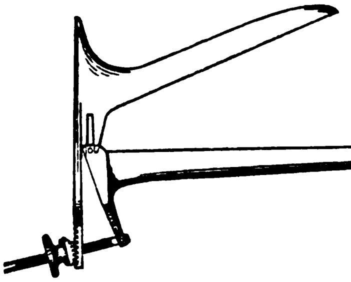
Patents granted February 27, 1877.

187,717. **Machines for Applying Powder for the Destruction of Insects.**—Park Kitchell, Whippany, N. Y.

187,747. **Saccharine-Composition Syrups.** — H. B. Blackwell, Boston, Mass. The artificial saccharine syrup or composition, consisting of glucose in the form of an uncrystallized or an uncrystallizable syrup, or of a syrup not readily crystallized, sucrose and water.

187,777. **Invalid Bedsteads.**—Jno. Q. A. Sargent, Manchester, N. H.

187,802. **Disinfecting Compounds.**—E. John M. Becker, New York. A disinfecting composition, consisting of maple sugar and of the oils and extracts of pine-needles and juniper berries.



187,625.

187,823. **Indicators.**—C. C. Curtiss and J. Curtiss, Chicago, Ill. An office-dial.

187,865. **Fluid Meats.**—Jno. L. Johnston, Sherbrooke, Quebec, Canada. A compound consisting of lean flesh and albumen, in the form of a dry powder, and the well-known gelatined meat essence.

187,881. **Apparatus and Processes for Manufacturing Purified Saccharine Solutions.**—A. Maubre, Penge, England.

187,930. **Processes of Preserving Meat.**—Wm. Stone, Boston, Mass., assignor to himself and Wm. Taylor, same place. Consists in first treating meat with chloride of sodium, or such and nitrate of potassium, and next subjecting it to the action of steam and malt, and finally to that of malt alone.

PRESCRIPTIONS AND FORMULÆ.

Cosmoline Cream. (E. J. Davidson, in *Am. Jour. Phar.*)

Cosmolin	24 troy ounces.
White wax,	
Spermaceti, āā	12 troy ounces.
Glycerine	3 fluid ounces.
Oil of rose geranium	1 fluid drachm.

Melt the wax and spermaceti, add the cosmolin; then stir until nearly cold; add the glycerine and oil, and stir until cold.

Mistura Antispasmodica (Potion antispasmodique opiacée), *concentrated.*

℞. Spiritus menthæ pip	1 gm.
Alcoholis	6 gm.
Vini opii	10 gm.
Aetheris	30 gm.

M. Ten drops of this mixture, added to a tablespoonful of water, represent 15 grammes, or one tablespoonful of the ordinary antispasmodic mixture. The concentrated solution is proposed for the purpose of facilitating a supply to be carried in the pocket.

Elixir of Monobromated Camphor. (Munday.)

Monobromated camphor	3 parts.
Alcohol 90%	120 "
Orange-flower water	80 "
Glycerine	100 "

Mix the alcohol and glycerine, dissolve the monobromated camphor by the use of a gentle heat, and add the orange-flower water. This solution contains 1% of monobromated camphor, being double the strength of that previously given in our February number, p. 62.

Effervescing Carbonate of Iron. (Dr. T. Skinner.)

Tartaric acid	24 parts.
Sodium bicarb	40 "
Iron sulphate (proto)	10 "
Sugar, powd	14 "
Citric acid	2 "

Mix the finely powdered dry materials as follows: First, the sulphate of iron with the sugar and part of the tartaric acid; secondly, the citric acid with the remainder of the tartaric acid and the bicarbonate. Stir the two mixtures together, and unite by sifting. Finally, granulate in open metal vessel over a water-bath. (*The Pharmacist.*)

Emollient Glycerine Lotion.

Take of mucilage of quince seeds, 1 fluid ounce; glycerine, 1 fluid ounce; orange-flower water, 6 fluid ounces. Make a lotion. (*The Pharm.*)

Podophyllin Pills. ("Castor Oil Pills.")

Resin. podophylli	gr. iii.
Extr. hyoscyami	gr. iii.
Saponis	gr. ivss.
Syrupi	gtt. vi.

M. Make 12 pills.

Standard Formulæ for certain new Preparations.

THE Société de Pharmacie of Paris some time ago appointed a commission, consisting of Messrs. Schaeufèle (president), Baudrimont, Gobley, Marais, and Petit (reporter), to prepare standard formulæ for certain new preparations, from whose report we select the following:

1. *Salicylic Acid*, $C_7H_6O_3$. A concentrated solution of commercial caustic soda is exactly neutralized with crystallized phenol, the liquid is evaporated in an iron kettle, and constantly stirred, until a pulverulent mass remains. This is sodium phenate, which is very hygroscopic, and must be kept, unless used immediately, in hermetically sealed vessels. This salt is introduced into a tubulated glass retort placed into an oil-bath, and as soon as the temperature has reached 100° C., a current of dry carbonic acid gas is passed through the contents of the retort. The temperature is gradually allowed during 3 or 4 hours to rise to 180° C. It requires some time before phenol begins to distil over, which is obtained in considerable quantity. Finally, the heat is raised to 220° C., and lastly to 250° C. The operation is finished as soon as the current of carbonic acid gas, at this temperature, carries over no more traces of phenol. The retort then contains only brown basic sodium salicylate. This is dissolved in water, and decomposed by hydrochloric acid. The crude salicylic acid is transferred to a filter, drained and washed, and once or twice recrystallized from boiling water. It may be obtained very pure by sublimation in brilliant needles.*

2. *Thymic Acid*, $C_{10}H_{14}O$. Add an aqueous solution of potassa or soda (1 : 10) to oil of thyme, and agitate repeatedly to facilitate combination. Thymic acid or thymol enters into solution, while thymene, the accompanying hydrocarbon, remains unacted upon. The solution is filtered and treated with an acid, hydrochloric acid for instance, which liberates the thymic acid. The crude acid is washed with water, and, after drying, distilled. Thymic acid thus prepared is liquid, but it may be obtained crystalline by exposing oil of thyme for some time to the cold. It is but little soluble in water, but very soluble in alcohol. It is strongly caustic.

3. *Crystallized Aconitine*, $C_{27}H_{40}NO_{10}$. Exhaust the powdered root of *Aconitum ferox* with concentrated alcohol, to which $\frac{1}{100}$ part of tartaric acid has been added. The solution is distilled at a moderate heat, out of contact with air, to recover the alcohol. The residue is taken up by water, which leaves all fatty or resinous substances behind. The watery solution, which contains the aconitine as tartrate, is shaken with ether, which removes coloring matters, then mixed with alkaline bicarbonate, until effervescence ceases, whereby the alkaloid is set free. The solution is again shaken with ether, which dissolves out the alkaloid, and leaves the latter behind on evaporation. To obtain it in crystals, some petroleum-ether should be added to the ethereal solution. It forms colorless or hexagonal rhombic tables, soluble in alcohol, benzine, and chloroform; insoluble in petroleum-oils and glycerine.

4. *Ammonium Bromide*, NH_4Br. Bromine is added very slowly to water of ammonia, under constant stirring, and until the liquid shows a faint excess of bromine. A few drops of ammonia are then added to overcome this excess, and the solution is evaporated to the point of crystallization. The salt appears in long colorless prisms, volatile without decomposition, and very soluble in water. Its watery solution must not become colored on addition of a few drops of concentrated hydrochloric acid, and on adding to it a small quantity of starch-paste and slightly yellowish nitric acid, no blue or violet color must make its appearance.

5. *Apomorphia*, $C_{17}H_{17}NO_2$. Introduce 1 part of pure morphia and 20 parts of pure hydrochloric acid into a strong glass tube, closed at one end, and capable of holding at least 15 times the quantity. Close the open end of the tube by fusion, and insert it into a cast-iron tube closed (at one end) with a screw plug. Place the whole apparatus into an oil-bath, and heat for 3 hours to between 140 and 150° C. After cooling, the tube may be opened without risk, for there is no pressure of gas inside. The solution is poured out, diluted with water, neutralized with sodium bicarbonate, and, finally, an excess of this salt added, which throws down apomorphia and any remaining unaltered morphia. The supernatant liquid having been decanted, the precipitate is taken up or exhausted by ether or chloroform, which only dissolve the apomorphia. To the ethereal or chloroformic solution enough hydrochloric acid is added

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* Complaints have been made of the sublimed acid being not sufficiently pure. Dialysed salicylic acid has been placed upon the market by E. Schering, and is no doubt the purest form in which it can be used. See NEW REM., v., 329.

to neutralize the base, which separates now from the solution spontaneously and settles upon the walls of the vessel. These crystals are rapidly washed with cold water, and purified by crystallization from boiling water. The pure alkaloid may be obtained by precipitating the solution of the muriate with sodium bicarbonate; a white precipitate is obtained, which rapidly turns green in the air. It must be quickly washed and dried. Its solution soon turns green and spoils, but sugar or exclusion of air prevent the change.

6. *Theïne* or *Caffeïne*, $C_8H_{10}N_4O_2,H_2O$. Exhaust good green or black tea with boiling water to obtain a concentrated solution, which is precipitated by a slight excess of basic lead acetate. Add to the magma a small quantity of ammonia, filter and separate the excess of lead in the liquid by a current of sulphydric acid gas. Filter again, and evaporate slowly. On cooling an abundant crop of nearly pure crystals of caffeïne is deposited. The mother-liquor yields more crystals on further evaporation.

7. *Bibasic Calcium Phosphate*, $CaHPO_4,3H_2O$. Dissolve 608 parts of crystallized calcium chloride in 1,000 parts of distilled water, and add to it gradually a solution of 1,000 parts of crystallized sodium phosphate in 10,000 parts of water. Let the precipitate subside, wash five or six times by decantation, with about 10,000 parts of water each time. Transfer the magma to a muslin-strainer, and allow it to drain. As soon as its consistence permits, cut it into pieces, which should be exposed to the air upon blotting-paper. It dries rapidly by spontaneous evaporation, and forms a very white and light salt.

8. *Syrup of Calcium Chlorhydrophosphate.*

Calcium phosphate, bibasic	12.5 parts.
Chlorhydric acid, pure (only just enough, or about)..............	8 "
Distilled water....................	340 "
White sugar, in coarse powder......	630 "
Essence of lemons................	10 "

Mix the calcium phosphate intimately with the water, add the chlorhydric acid in just sufficient quantity to dissolve the lime-salt, then add the sugar, and dissolve cold, or with a *very* gentle heat. Filter, and add the essence of lemons to the cold syrup.

9. *Syrup of Calcium Lactophosphate.*

Calcium phosphate, bibasic........	12.5 parts.
Lactic acid, concentrated (only just enough, or about)..............	14 "
Distilled water....	340 "
White sugar, in coarse powder......	630 "
Essence of lemons......	10 "

Mix the calcium phosphate intimately with the water, add the lactic acid in just sufficient quantity to dissolve the lime-salt, then add the sugar, and dissolve cold or with a *very* gentle heat.

10. *Syrup of Acid Calcium Phosphate.* This is prepared exactly like the preceding two syrups, substituting a sufficient quantity of medicinal phosphoric acid, spec. grav. 1.45, or about 18 grammes.

11. *Glycerole of Calcium Saccharate.*

Burnt lime, clean and white...........	80 gm.
Sugar, powdered.....................	160 "
Glycerine..........................	160 "
Water, q.s. to make.................	1 litre.

To the lime and sugar add gradually, and in small portions, 700 grammes of water. After 24 hours of contact, filter, add the glycerine and sufficient water to make 1 litre. This glycerole is used for preparing the following:

12. *Liniment of Calcium Saccharate.*

Olive oil.........................	200 parts.
Glycerole of calcium saccharate.......	100 "

Mix.—*Répert. de Pharm.*, 1877, No. 2, 3.

Solution of Bromide of Arsenic. (R., Richmond, Ind.)—The manner of preparing pure bromide of arsenic, its properties and composition, has been given in our last volume (1876, pg. 350). The peculiar solution, however, which goes by the above name, is that introduced many years ago by Dr. Clemens, of Frankfort on the Main, and which *Dorvault*, in his *Officine*, calls "Liqueur Clémens," or "Liqueur à l'arsenite de bromure de potassium." It is intended as a substitute for Fowler's solution. Its formula is as follows:

Arsenious acid..............	1 part	by weight.
Potassium carbonate.........	1 part	
Bromine....	2 parts	
Distilled water, to make.....	93 parts	

Boil the carbonate and the acid with most of the water, until they are dissolved; when cold, add the bromine and enough water to make up the bulk to 93 parts.

Age is supposed to improve this mixture, as the bromine gradually enters into combination. The dose of the solution is from 1 to 4 drops in water, once or twice daily.

Analysis of Ridge's Food.—The *Medical Examiner* gives the following analysis of Dr. Ridge's Food:

Moisture............................	9.31
Oil (fat)...........................	.92
Nitrogenous (or flesh-forming) matter.....	5.25
Starch, sugar, and digestible fibre.........	83.63
Cellulose............................	traces
Ash................................	.89
	100.00

Ammoniated Tincture of Guaiacum in Inflamed Throats.

Dr. Garner recommended some time since (*Canada Lancet*, July, 1876) the employment of ammoniated tincture of guaiacum in inflammation of the throat whether acute or chronic. The remedy, he says, seems to be totally unknown to some practitioners, and wholly ignored by others. He uses the remedy with almost invariable success in cases of chronic hoarseness, employing it in the form of a gargle. In the first stage of quinsy its action is astonishing. In cases of inflamed tonsils or sore throat, when produced by, or accompanying measles, scarlatina, cynanche, parotiditis, and croup, he uses the pure tincture by means of a sponge-probang. His formula for a gargle is as follows:

Gargle for Sore Throat.

℞.	Tinct. guaiaci ammon.............	ʒ iij.
	Liquor. potassæ..................	ʒ iij.
	Tinct. opii......................	ʒ ij.
	Àq. cinnamomi...............ad. f.	℥ viij.

How to Cure a Bad Cold.

Wharton (*Virgin. Med. Monthly*) recommends carbonate of ammonia in full and often repeated doses: 10 grains, in mucilage, every hour or two hours, for one or two days in severe cases. With proper attention to other hygienic means the patient will soon recover from the severest cold without the liability to relapse which follows the employment of sweating medicines.

Digestive Pastilles of Borivent.

Bismuth subnitrate	20 parts.
Calcium phosphate	30 "
Sodium bicarbonate	10 "
Magnesium carbonate..............	200 "
Iron carbonate	50 "
Sugar	1000 "

Flavor with essence of peppermint, anise, or orange-flowers. Make into pastilles of 1 gramme each, of which 3 to 12 may be taken daily.

"Sulphur Pills."

Potassii sulphureti,	
Pulveris jalapæ,	
Saponis	āā ʒ i.
Extr. taraxaci	q.s.

Make 120 pills.

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Dr. J. T. Rothrock has been elected to the chair of Professor of Botany in the Auxiliary Faculty of Medicine of the University of Pennsylvania, the vacancy occurring by the election of Dr. H. C. Wood to the chair of Materia Medica.

ITEMS.

College of Pharmacy of the City of New York.—The annual meeting of the members of the College was held on Thursday, March 15th, at which the new officers for the ensuing year were elected. The roll of members includes at present 44 life, 16 honorary, and 189 contributing members, being a total of 249. The total number of students who attended the lectures and laboratory was 205, being in excess of the previous year. The Board of Pharmacy reported that they had held 80 examinations, of which 53 were first examinations (resulting in 29 rejections); 18 were second examinations (with 8 rejections); 4 were third examinations (with 3 rejections); and 5 were fourth examinations (with 2 rejections). Of the 80 applicants, 17 were proprietors, and 63 were assistants. Nine proprietors and 33 assistants failed to pass. At the first meeting of the new Board of Trustees, held on April 5th, the list of officers was completed by the appointment of the standing committees:

President: Ewen McIntyre.

Vice-Presidents: Henry J. Menninger, Wm. M. Olliffe, Dav. Hays.

Treasurer: Theob. Frohwein.

Secretary: Henry A. Cassebeer, Jr.

Trustees: Paul Balluff, Gust. Balser, Geo. C. Close, Fred. Hoffmann, Wm. Neergaard, M. L. M. Peixotto, Gust. Ramsperger, Chas. Rice, John W. Shedden, Ad. Tscheppe, Aug. W. Weismann.

Committee on Pharmacopœia: P. W. Bedford, Paul Balluff, Chas. Rice.

Delegates to Amer. Pharm. Assoc.: Fred. Hoffmann, Chas. Rice, M. L. M. Peixotto, H. J. Menninger, Ad. Tscheppe.

Library Committee: Chas. Rice, Gust. Balser, Ad. Tscheppe.

Lecture Committee: Paul Balluff, M. L. M. Peixotto, Fred. Hoffmann, John W. Shedden, Chas. Rice.

Curators: Gust. Ramsperger, Gust. Balser, Chas. Rice.

Property Committee: Wm. M. Olliffe, Wm. Neergaard, Theob. Frohwein, H. A. Cassebeer, Jr., Aug. W. Weismann.

Examination Committee: Chas. Rice, H. J. Menninger, M. L. M. Peixotto, Gust. Ramsperger, Aug. W. Weismann.

The name of F. W. Henry has been omitted by an oversight from the list of the graduates of this College, printed in our last number. We also take pleasure in placing here the names of those graduates of the class of 1876–'77, in the order of merit, who particularly distinguished themselves in their examination: First prize, gold medal, Francis B. Wells; second prize, silver medal, Ernest Montanus, Jr.; Third prize, bronze medal, Edw. V. Zoeller. Honorably mentioned: R. L. Iler, F. M. Corwin, G. T. Schoenchen, W. D. Colby, M. J. Breitenbach, W. Hebig, J. Teschner, K. J. Egge, E. F. Leister, E. A. Stahl, W. S. Getty, A. L. Avery, C. J. Lawler, F. H. Nowill, H. Kopf.

Renewed attention is directed to the summer course in laboratory practice, practical pharmacy, and botany. To judge from the number of applicants, these classes promise to be much larger than in former years.

We are requested to notify all the members of the College that an invitation has been extended to them by Dr. John C. Peters, President of the Medical Society of the County of New York, to be present at, and take part in, a discussion on the "Revision of the Pharmacopœia," which is to take place on Monday, April 23d, at 8 P.M., in the lecture-room of the College of Physicians and Surgeons.

At the next College meeting, on June 21st, it is proposed to discuss the same subject, so that an expression of the sense of the members be arrived at. Due notice will be given in our next number.

Medicine Cups.—Messrs. S. Manson & Thompson are manufacturing small earthenware cups of various sizes, having bevelled rims, and being made to contain accurate quantities when filled to the inner edge. They are furnished at so small a price as to enable them to be given away by the apothecary as a means for administering the exact dose prescribed to be taken of any mixture.

The Philadelphia College of Pharmacy.—At the annual meeting of the Philadelphia College of Pharmacy, held on Monday, the 26th of March, the following officers were elected:

President, Dillwyn Parrish; *First Vice-President,* Charles Bullock; *Second Vice-President,* Robt. Shoemaker; *Treasurer,* Samuel S. Bunting; *Recording Secretary,* William J. Jenks; *Corresponding Secretary,* Alfred B. Taylor; *Board of Trustees* (eight members elected at this meeting): Robert Bridges, M.D., John M. Maisch, Daniel S. Jones, Thomas S. Wiegand, James T. Shinn, T. Morris Perot, William B. Webb, Joseph P. Remington; *Publication Committee:* John M. Maisch, H. N. Rittenhouse, Thomas S. Wiegand, James T. Shinn, Charles Bullock; *Sinking Fund Committee:* Thomas S. Wiegand, T. Morris Perot, James T. Shinn; *Editor,* John M. Maisch; *Librarian,* Thomas S. Wiegand; *Curator,* Joseph P. Remington.

A Prize of one hundred dollars, to be called the Priestly Prize, in honor of the great chemical discoverer, has been instituted in the School of Chemistry of the Stevens Institute of Technology, and is to be awarded to the student who has excelled in the performance of chemical work, or in the pursuit of original investigation.

The Maine Pharmacy Law.—A pharmacy law in Maine has been recently passed, and received the sanction of the Governor, February the 9th. According to its provisions, the Governor has to appoint three suitable persons to be Commissioners of Pharmacy, who are to examine every applicant desiring to engage in the business of apothecary; said applicant must have been employed in an apothecary store where physicians' prescriptions are compounded, at least three years, or must have graduated from some regularly established Medical School or College of Pharmacy, and be competent for the business. The act does not apply to physicians putting up their own prescriptions, or to the sale of proprietary medicines.

Penny's Receipt for the Cure of Hydrophobia.—Some of the older residents in Orange, Ulster, and Sullivan Counties, may yet remember an old man named James Penny, a sort of itinerant or "Indian" doctor, whose specialty was the cure of hydrophobia. He is long since dead, and by many has been quite forgotten; but a physician, whose grandmother's home was the last shelter of the old man, has lately discovered among a number of things which he left behind him, the receipt for his "cure." The prescription, a sample of which has been given us, was handsomely engraved by Lowe, of 146 Broadway, N. Y., and bears the address and date, Frantzdale, Ulster, April 28, 1837. It is in shape like a bank note, and is printed on bank-note paper. A circular design in the centre of the upper margin represents Hercules, armed with an axe, attacking a beast which bears some resemblance to a dog, the latter being evidently the work of a more modern artist than the figure of the mythological deity. The general appearance of the formula is very handsome, but the text, on close examination, is more curious than elegant, and reads as follows:

"Take two upper & one under Oyster Shells well freshened & burnt to a Lime, Roach alum well burnt, Bolarmenia or draggons Blood pulverized, taken in midling good White Wine. Beer. or Ale. the Alicompain root must be dryed made fine, the shell Lime & Alicompain must be ⅛ the most, the other two articles half and half all well mixed together and KEPT *in a* GLASS JAR AIR TIGHT. Take for Man or Beast weighing 160 lbs and so in proportion to any heft ONE COMMON TABLE SPOONFULL mixed early in the morning immediately after being bit, in White Wine, Beer, or Ale, fasting four hours & Neither Eat nor drink & put some of the medicine on the wound mixed in some grease and bind it on tight and so on for two mornings running. and the Fourth morning take the Third dose fasting each time as above and ardent Spirits must not be drank for three months after. James Penny.

A Botanical Exhibition.—In connection with the grand International Exhibition of Horticulture, to open at Amsterdam on April 12th, and which is expected to be one of the most complete ever held, it is proposed to have a supplementary exhibition of industrial products of vegetable origin, with special classes, amongst others for rhubarb, cinchona barks, sarsaparilla, vegetable oils, etc. A congress of botanists, horticulturists, manufacturers, and dealers in such products is to be held at the same time. Among the questions standing for discussion are the following: "What is the best method of harvesting cinchona bark, and does practical experience indicate the expediency of adopting different methods with different species of cinchona?"

German Chemical Society.—At the annual meeting of the German Chemical Society, held at Berlin, December 22d, the following officers were elected for the year 1877: President, Prof. F. Wöhler; Vice-presidents, Professors Kekulé, Baeyer, Hofmann, and Liebermann. The retiring president (Professor Hofmann) stated in his annual report that the present number of members was 1,598, showing an increase of 225 during the past year, and that 423 original scientific communications had been presented before the society during this time. The *Berichte* for 1876 form a volume of about 2,000 pages.

Solvent for Silk.—According to Julius Löwe, the following mixture forms a good menstruum for dissolving silk: 16 gm. cupric sulphate are dissolved in 140 to 160 gm. of distilled water, and 8 to 10 gm. of pure glycerine, of spec. grav. 1.240, are added, after which soda-solution is dropped in, until the light-blue precipitate, which is formed at first, is again dissolved. The resulting liquid must be preserved, unfiltered, in a well-closed bottle, and when using it, the clear portion is poured off. This liquid dissolves silk without difficulty, forming a more or less viscous solution. On addition of hydrochloric acid, a white jelly separates. Wool, cotton and linen fibres are not attacked by this liquid, which may therefore be used to separate silk from other textile fabrics.

The Kings County Pharmaceutical Association held a meeting on Tuesday, the 10th inst., at which the revision of the Pharmacopœia was under discussion. The shortcomings of the present work were freely canvassed, and the plan of Dr. Squibb, for its improvement, received very general endorsement.

Hospital Out-Patient Reform.—The *Pharm. J. and Trans.* states that the authorities of King's College Hospital have inaugurated a system which acquires increased importance from the numerous cases of poisoning by misadventure heretofore reported. In the out-patient department of this hospital all liquid medicines intended for external use are now supplied in *blue glass poison-bottles* only. Patients not having these bottles are required to pay for them, cost price being charged for all the sizes which are most frequently in use. The system has had a fair trial and has been found to work successfully. It is thought that by "educating" the hospital patient to the use of a special bottle for all remedies not intended to be taken internally, an additional means of safety will be provided. The bottle to which preference has been given is the so-called "Fluted Poison," introduced by Toogood as specially applicable to external remedies, and now very generally in use among pharmacists.

Such bottles are also manufactured in this country, but the tint of the glass is occasionally too dark to admit of their contents being seen or examined.

Non-poisonous Vegetable Fly-paper.—Powdered *black pepper* is mixed with syrup to a thick paste, which is spread by means of a broad brush upon coarse blotting-paper. Common brown syrup will answer, but syrup made from sugar is preferable, as it dries quicker. For use, a piece of this paper is laid upon a plate and dampened with water. The paper may also be made directly at the mill by adding sugar to the pulp and afterwards ¼ to ⅓ of powdered black pepper, and rapidly working it into a porous absorbent paper.

Asbestos is found in large quantities in Pennsylvania, Virginia, Maryland, and parts of Canada, though it is said to be inferior in quality to that which comes from the shores of the Mediterannean Sea. This substance was first discovered in Corsica and Italy, and was employed by the ancients for a variety of purposes, prominent among which was its use in the form of a paper as a wrapping for the dead. They also made a felting of it by combining it with woody fibre and then destroying the latter by fire. The manner in which this was done is now unknown

Pharmacy in New South Wales.—An Act to restrict the use and sale of poisons in the province of New South Wales, came into force on September 1. In accordance with the 9th section, the Governor, with the advice of the Executive Council, has for the purposes of the act, appointed a Board of Pharmacy, consisting of the President of the New South Wales Medical Board, the Medical Adviser of the Government, and the Council of the Pharmaceutical Society of New South Wales.

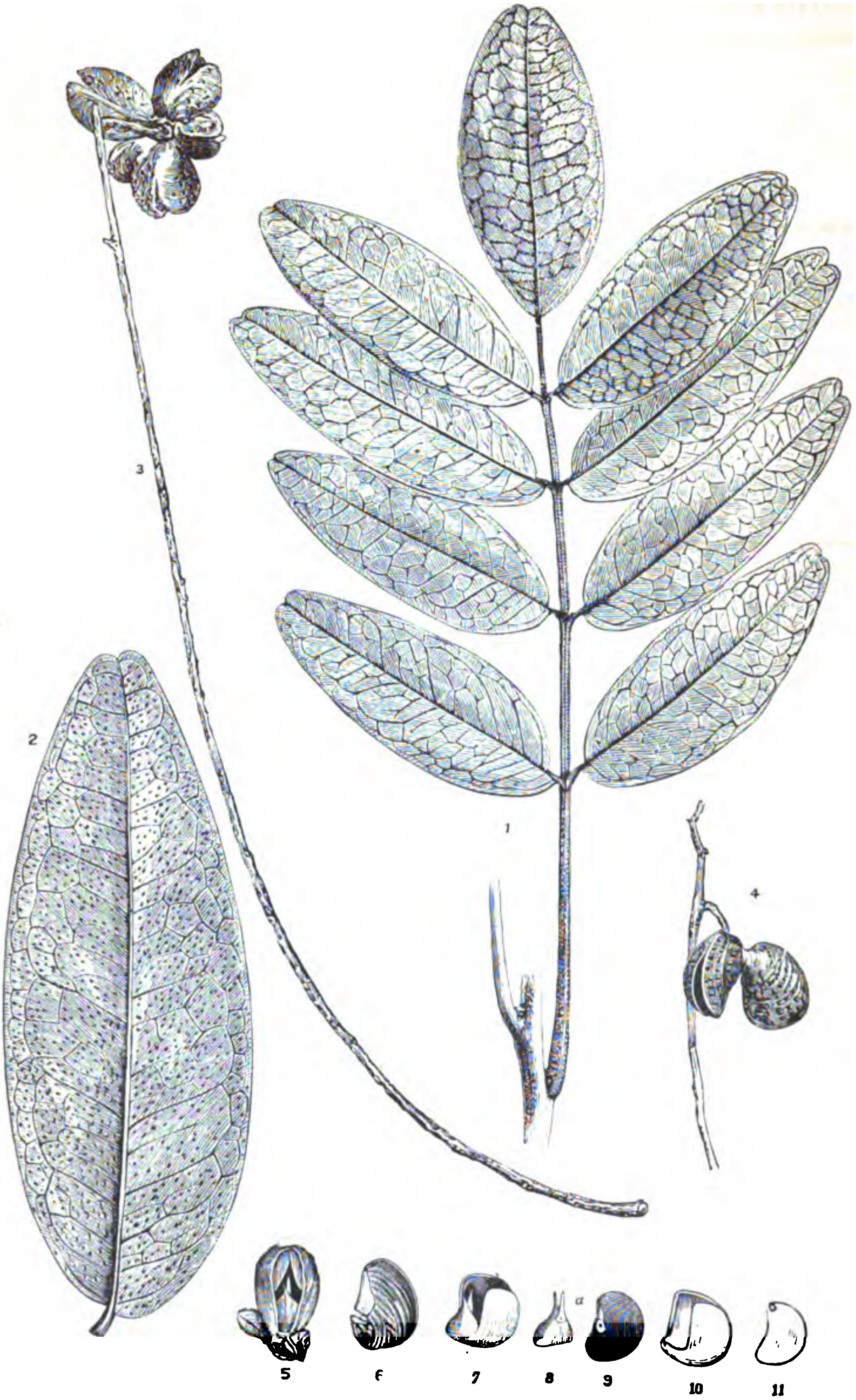
Dr. John S. Newton has been elected Professor of Materia Medica, Therapeutics, and Botany in the Pennsylvania College of Pharmacy. He is a graduate of the Jefferson Medical College, and was formerly Professor of Chemistry in the Central High School.

Fashionable Medicines.—In the *Archives Générales de Médecine*, for January, M. M. Lasègue and Reynauld give the following statistics respecting some modern drugs supplied by the medical men of the Assistance Publique. In 1869 the Central Pharmacy distributed 141 kilogr. of chloroform against 308 kilogr. in 1875. Chloral showed a still more rapid increase. In 1869 only 5 kilogr. were required, whilst in 1875 360¼ were consumed. Iodoform, from 250 grm. in 1859, rose to 28 kilogr. in 1875; bromide of potassium rose from about 3 kilogr. in 1855 to nearly 800 kilogr. in 1875; opium showed but small variations, but the same cannot be said of morphia, no doubt from the general use of hypodermic injections, for from 275 grms. in 1875 the amount rose to the enormous quantity of more than 10,000 grms. A very large augmentation was also seen in the alcohol used in the hospitals and infirmaries of Paris. Thus, in 1855, the Assistance Publique only appropriated 1,270 litres of alcohol to the use of the sick, whilst in 1875, 37,578 litres were used. The same increase is noticeable in rum and red wine. The use of white wine has sensibly diminished. The use of leeches has nearly gone out of fashion. In 1834 and the following years up to 1837, the number of leeches employed exceeded a million, in 1874 the numbers had fallen to 49,000 only. The consumption of sulphate of quinia is on the increase, and represents 24,525 grms. in 1855 against 53,734 grms. in 1874.

Obituary.—On the 9th inst., William Wood, father of Wm. H. S. Wood, the present head of the firm of Wm. Wood & Co., died suddenly in this city of cardiac disease.

In 1803, Samuel Wood came from England to New York City, and opened a small book-shop at No. 362 Pearl St. In 1822, William became a partner in the firm, then composed of his father and elder brothers, and the erection of a new building on the site of the old shop soon followed. The publication of medical books was undertaken, and, influenced by the taste of the junior member, this gradually outgrew the other branches of the business until, at the time of Mr. Wood's retirement from the firm in 1868, almost all other lines had been abandoned, and the publication of this class of works had become the specialty of the house. In 1856 the business was moved to No. 389 Broadway; again in 1862, to No. 61 Walker St. (where the present head of the firm became a partner), and still later to the present site. His long and familiar acquaintance with most of the leading physicians of the country enabled Mr. Wood to appreciate and sympathize with their views as few persons, not actually engaged in the practice of medicine, can do, and his systematic habits of business, integrity of character, warmth of attachment, and cordiality of manner, won for him the respect and affection of all who knew him.

"NEW REMEDIES," an Illustrated Monthly Trade Journal.
New York, May 15, 1877.



JABORANDI (*Philocarpus species*).

NEW REMEDIES.

AN ILLUSTRATED MONTHLY TRADE JOURNAL OF
MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.
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Please note our advertising pages. There are no *deadheads* in NEW REMEDIES. No advertisements inserted or retained unless paid for, *except* "Situations Wanted;" in such cases we are glad to help those who try to *help themselves.*

EDITORIAL.

ON another page we publish the text of a bill which has already passed one branch of the State Legislature, and which aims at a means for regulating the weights and balances employed by pharmacists in this city. On page 32 of our January number we gave an extract from a series of editorial articles in the *Medical Record* on this subject, and we believe we are right in presuming that this effort at legislation is in consequence of the facts there mentioned. There can be but little doubt that pharmacists are much in want of a convenient way for verifying their weights and balances, for, with the present competition among the makers of these wares, the marks on the pieces and the general features of construction are not guarantees of correctness to be relied on. The conscientious pharmacist fails in his duty who does not take special pains to know that such instruments of precision are really what they profess to be.

We believe that if the College of Pharmacy would afford its members opportunities at convenient intervals for such verification, and would notify them of its desirableness, all the good men of the profession would avail themselves of such occasions. As for the bad men, we cannot see what good can come from the appointment of an inspector in the manner contemplated by the act.

In selling bulky articles, such as groceries, for example, the customer usually stands by and sees that he gets full weight, and in this case the systematic inspection of weights is well calculated to prevent fraud; but in the compounding and dispensing of medicines the case is quite different. The customer rarely oversees the manipulation—and in most cases, we may say, would not understand it if he did—and a druggist who would use incorrect weights and balances from dishonest motives, would not lack opportunities for accomplishing his purpose, unless the official inspector could stand at his elbow constantly.

There are more serious objections than this, however, to the act as it now stands, the most prominent one being that no competent man could be found who would retain the place long enough to render the law of any value. The law requires the inspector to examine all the weights and balances in use at least once a year, but awards him for his compensation for this decidedly arduous service only the fines collected, not exceeding $1,200. The inspector is also directed by the act to levy and collect the fine himself, and as he is to be an appointee of the Mayor, it is fair to presume, from past experience, that the merits of the successful candidate for the place are more likely to be of a political than a professional character. The condition of the pharmaceutical trade, subject to the frequent visits of a ignorant rough having a strong pecuniary incentive to levy black-mail, can, perhaps, be imagined.

Suppose, however, a good and competent man should get the office, and in the course of his tour of duty should call on an apothecary who might offer every facility for the examination of his weights, but positively refuse to pay the fine. We fail to discover any provision in the act for collecting the money, and in case the apothecary sincerely believed that his weights were correct, in spite of the inspector's statement to the contrary, the settlement of the controversy would involve something more than a police-court trial, if we are not very much mistaken in regard to what constitutes the rights of individuals under the laws.

SEVERAL times already have efforts been made to engraft a botanical garden upon our Central Park, but the lack of means which could be devoted to the purpose has prevented its being carried out. In view, however, of the prospective removal in the fall of the American Museum of Natural History to the piece of ground above Seventieth Street, on the west side of the park, some gentlemen, among whom Mr. Samuel B. Ruggles is quite prominent, are making an effort to secure the passage of a bill which will enable them to use the land of "Manhattan Square," not occupied by the museum, for the purposes of a botanical garden. As it is intended to raise the means for doing this by subscription, we have decided doubts of the success of the plan. Some good, however, will result from the agitation of the project, and we still hope that the Museum itself will devote the small amount that would be required of its own funds, to the support of a botanical collection, which will at least form a nucleus. There are a considerable number of associations and institutions in the city whose labors would be greatly facilitated if its members could have access to a well-arranged garden, though it might be of only moderate capacity. It may be, therefore, that in the event of the bill becoming a law, these organizations might be quite willing to contribute towards raising the amount needed.

IT is not an uncommon thing to see the laboring-men of England spoken of as being given much more to passing their spare time in gin-mills and public houses, than employing it for any good end; but we find a statement in one of our exchanges which makes us wish that the corresponding class in this country could have anything half as good said of them as the following:

"It was reserved for the workingmen of Tyldesly and Atherton to strike out a new idea. They have clubbed together and formed a sort of joint-stock company, with shares of £1 each, 130 of these having been taken up by 97 members. With the money they have secured two acres of land, pleasantly situated, and containing a lovely dell. The spot thus selected they mean, by their own efforts, to turn into a Botanical Garden. Every evening, for some months past, they have been busy with their spades, digging and delving, making winding walks and raising banks, diligently working with their own hands to lay out and utilize the ground. Shortly the 'landscape gardening' will be complete and the beds ready for planting. A cottage at the entrance of the enclosure is intended for the occupation of one resident member, who is to act as librarian and custodian. The books belonging to the two societies are to be intrusted to his care."

ON the 5th of April the Court of Appeals of the State decided that the Excise Commissioners have no authority to grant licenses to keep and sell spirituous liquors and wines to any but those persons who keep an inn, tavern, or hotel. In the city of New York alone there are estimated to be at least 8,000 persons who at that time were infringing the law, although they held licenses from the Excise Commissioners. The disturbance caused among them by this decision can well be imagined, and their only recourse being a modification of the law, their efforts to accomplish that end have been very persistent. An opposition, headed by Howard Crosby, Chancellor of the University of the City of New York, and well-known as pastor of a leading Presbyterian Congregation, has called upon all who believe that the abuse of alcoholic drinks needs to be checked, but who do not sympathize with the advocates of total abstinence, to aid in preventing a change in the law.

These persons claim that the right to sell ale and beer is all that should be left to this multitude of retailers of alcoholic drinks, and that the wants of the community are sufficiently met by allowing the sale of distilled liquors and wines to take place in the places designated by the act. We very much fear that the interests of the liquor dealers will carry the day, but we sincerely hope that it could be otherwise.

The present amount of disease and poverty resulting from the almost unlimited sale of alcoholic liquor is unquestioned, and the medical profession is directly interested in the result of this movement.

THE plan proposed by Dr. Squibb for the revision of the U. S. Pharmacopœia is still the subject of active controversy in this neighborhood. The Kings County Medical Society have given it their endorsement, and at the last stated meeting of the Medical Society of the County of New York, it was the subject of discussion, a number of representatives of the College of Pharmacy being present by invitation, and taking part.

Some of the speakers among the physicians seemed to confound the Pharmacopœia with Wood and Bache's United States Dispensatory, and gave the impression that they had never become sufficiently acquainted with the former work to recognize its character. The majority, however, spoke intelligently, and were mostly in favor of any change which would make the Dispensatory a more serviceable work. The exceptions were two of the four pharmacists who took part in the discussion; and one of the two, having been a delegate to the General Convention of 1870, probably felt called upon to support the old *régime*.

No vote was taken on the question, it being resolved that the discussion should be continued at a subsequent meeting.

IN our next number we shall commence the series of papers promised at the commencement of this volume, on the methods of detecting adulterations in commercial drugs and chemicals. To render the scheme of greater interest and value to such of our readers as choose to take part, we shall, in connection with it, offer a prize of books each month for the best analysis of a sample to be furnished by us. It is our intention to have the first analysis quite simple, and gradually to increase their intricacy, so as to afford to students and druggists a means for becoming practically familiar with the methods of analysis essential to the retail druggist who may desire to assure himself of the quality of the goods offered him. Some of the specimens will be of vegetable origin, and consist of seeds, barks, leaves, roots, flowers, etc., giving opportunity for the use of other means than chemical analysis for their examination.

Persons desiring to compete, will send their addresses without delay to the publishers, who will also receive the answers, and take charge of the envelopes containing the names of the contestants.

Each candidate will be expected to furnish a written account of the method pursued in the examination, and to state the nature of the substance examined or the adulterant, when one exists. The paper must not be signed, but, instead, a motto or device may be used, which shall also be put onto a sealed envelope, containing the name and address of the writer. In the subsequent paper the various answers will be commented upon, and the name of the winner of the prize will be announced.

WE have had a number of inquiries relating to the tariff on chemicals, drugs, and medicines, and especially regarding the character of the examination by the Customs' authorities into their purity and fitness for medicinal use. We therefore publish, on page 157, a synopsis of the rates of duty and other facts which are not generally known, and which will be of considerable interest. The manner in which this service is performed for the port of New York leaves no occasion for "Civil Service Reform" in one department of the Custom House at least.

WE have a somewhat lengthy communication from Dr. Polk, of Philadelphia, on the medical employment of Protagon, as well as on the question of priority in its use, between Dr. Percy and himself, but we are obliged to defer its publication or the present.

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

Jaborandi.

THE plant which has recently been introduced as an article of the materia medica under the name of jaborandi is a native of Brazil, where the words *jaborandi*, *iaborandi*, and *jamborandi* are used to designate a number of plants having pungent and sudorific properties. One of these, belonging to the family of Piperaceæ, we described in our last number, and this month we publish an illustration of a species belonging to the family of Rutaceæ, which was described by E. M. Holmes in the *Pharm. Journal*, third series, v., 581. The sample from which the drawing was made came from Pernambuco, and careful examination showed that it differed in some respects from the *P. pinnatifolius* of Lémaire, a specimen of which is cultivated in the botanical gardens at Kew. Mr. Holmes suggests that this species should be called Pernambuco jaborandi, in order to distinguish it from the other.

The specimen from which the plant here illustrated was chosen appears to belong to a shrub about five feet high. The root is cylindrical, hardly tapering at all, nearly three-quarters of an inch in diameter for the first 12 inches, and very sparingly branched. The bark of the root is of a pale yellowish brown color, about one line in thickness, and has a very short fracture. The outermost layers are very thin and papery, and are frequently exfoliated. The odor of the root is like that of bruised pea-pods and orange-peel. The taste is at first like that of green peas, but this soon disappears, and gives place to a tingling sensation, which is much more powerful than that produced by the leaves or bark of the stem, and endures for a considerable time. By gas-light the transversely cut surface of the bark is seen to sparkle with minute crystals.

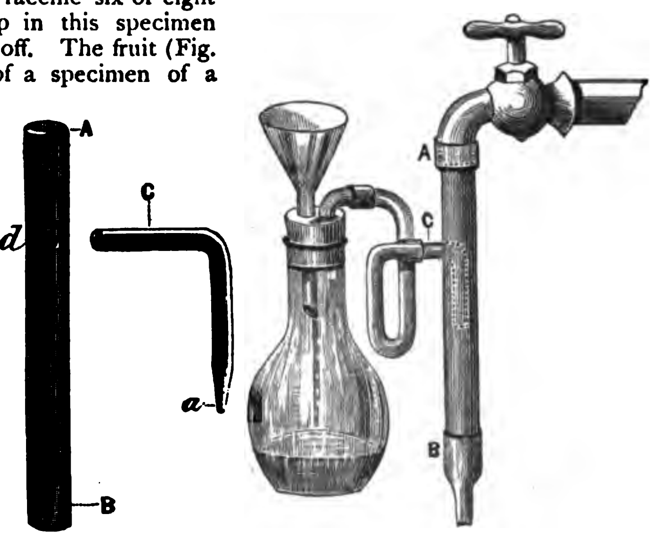
The bark of the stem is thin, of a grayish brown color, longitudinally striated, and sprinkled over in some specimens with a number of white dots, which are not lenticels, but the remains of old oil receptacles. The bark of the stem is thin and fragile, and readily scales off when the stem is broken or bent; it has a short fracture, and is yellowish white internally; its inner surface sparkles with minute crystals; it has not, to any appreciable extent, the leguminous taste of the root. The wood of the stem is yellowish white and remarkably fibrous. The stem branches at an angle of about 20°. The leaves (Fig. 1) are alternate, imparipinnate, about nine inches long, with from three to five pairs of opposite leaflets, which are about 1¼ inches apart. The leaflets are variable in size, even on the same specimen. Their texture is coriaceous, and when moistened they resemble in size and thickness the leaf of the cherry-laurel. The veins are prominent on both sides of the leaf. The mid-rib is scarcely prominent on the upper, but forms a distinct keel on the under surface of the leaflet. When held up to the light the leaflets are seen to be densely pellucidly punctate. These pellucid dots are not arranged, as in another kind of jaborandi, in lines along the veinlets, but are irregularly scattered. The whole plant is glabrous.

There appear to be two varieties, if not species, of this Pilocarpus, one being perfectly smooth in every part, as above described, and the other having the stems, petioles, and under surface of the leaves covered with a velvety growth of hairs. In shape and size the leaves of the hairy variety resemble the other, but are rather thinner in texture, and have a somewhat different and less pungent taste.

In the illustration 1 is an entire leaf; 2, leaflet, under side, showing venation; 3, an entire fruit, natural size, with peduncle. The inflorescence is believed to be a raceme six or eight inches long, the top in this specimen having been broken off. The fruit (Fig. 3) resembles that of a specimen of a Cuban plant of the genus *Galipea*, referred by Asa Gray to *Pilocarpus heterophyllus*. When perfect the fruit consists of five carpels, of which not more than two or three are usually developed to maturity. When ripe the carpels separate into two valves (Fig. 5) and then resemble minute cockle-shells (Fig. 4), with the valves open exposing the animal. Figs. 5 and 7 show the inner case. Figs. 4 and 6 show the curved ridges which exist on both inner and outer surfaces of the carpellary valve; Fig. 8, placenta separated; Fig. 9, seed, *a*, hilum; Fig. 10, endocarp without the placenta; Fig. 11, cotyledon.

A Simple Filtering Pump.

B. C. **Buck** constructs a filter pump on the principle of Sprengel's exhaust pump, in the following simple manner: A piece of half-inch caoutchouc tubing, six inches long, is provided with a one-eighth inch round hole, two inches from the end, by means of a cork-cutter, or with a common steel punch. A piece of quarter-inch glass tubing is now shaped as shown in cut; the pointed end, a, is inserted in the hole at d, pressed until its bend is just inside the tube, and the pump is completed. The end (A), of the caoutchouc tube is stretched over the nozzle of a faucet, a quarter-inch discharge pipe is stretched over the other end (B). The vacuum produced will, of course, be proportionate to the height of the column of water supported in the discharge pipe. With a height of four to six feet, passed down the drain pipe, which is connected with the sink, very good results may be obtained. The bottle, bell glass, or test-tube to be exhausted is attached by means of quarter-inch tubing at C. The illustration shows the pump arranged for use.—*Proceed. Am. Pharm. Assoc.*, 1876, 54, from *Am. Chem.*, 1876, 311.



A Simple Filtering Pump.*

On the Alkaloids of Aconite.

Mr. C. R. **Alder Wright** has continued his researches on the alkaloids of aconite, and has particularly reëxamined the products obtained by previous investigators. He sums up his conclusions as follows:

1. *Aconitum Napellus* roots, as met with in commerce, yield by appropriate means a highly active, well-crystallized alkaloid (*aconitine*), which is represented by the formula $C_{33}H_{43}NO_{12}$; the crystallized bodies obtained formerly by Groves (1860), and by Duquesnel (1871), consisted mainly of this base, but were not perfectly pure.

2. It has happened in one instance that roots purchased as *A. Napellus* yielded only a small quantity of aconitine, and that a large amount of nearly inert base, yielding well-crystallized salts (*picraconitine*) was also present. The preparations usually met with in pharmacy under the name of "aconitine" or "nitrate of aconitine," must necessarily contain this inert base, whenever it was present in the roots employed; and consequently such pharmaceutical preparations cannot be relied on as of uniform physiological potency.

3. Besides *aconitine* and *picraconitine*, *A. Napellus* roots contain another alkaloid (alteration product of aconitine produced during extraction) of lower molecular weight, and incapable of yielding crystallizable salts, or of crystallizing itself. Commercial "aconitine," when not crystallized, is liable to contain this substance as an impurity; but the body examined by von Planta appears to have almost wholly consisted of this amorphous, uncrystallizable substance, which is perhaps iden-

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* *Proc. of the Amer. Pharm. Assoc.*, 1876.

tical with, or may contain the body "napelline," and other analogous substances described by other chemists.

4. The physiologically active, crystallizable, alkaloid of *A. Napellus* (*aconitine*) appears to be wholly dissimilar from the crystallizable alkaloid of *A. ferox* (*pseudoaconitine*), although the two are doubtless allied, and are similar in many of their properties. The inactive bitter base of *A. Napellus* (picraconitine) is not identical with Broughton's atisine from *A. heterophyllum*.

5. The use of strong mineral acids and other reagents in the extraction of aconite alkaloids from the roots (as in the older processes of Geiger and Hesse, of Hottot and Liégeois, etc.) is extremely likely to cause loss of crystallizable aconitine by alteration and decomposition; and to this cause is to be attributed the statement of chemists, who have used such processes, that the alkaloid of *A. Napellus* is non-crystalline. Not improbably the "lycoctonine" and "acolyctine" of Hübschmann, from *A. Lycoctonum*, are alteration-products thus formed. The tartaric acid process of Duquesnel* is preferable, but in view of the first rough crystals of base thus produced being impure, and of the difficulty of separating a mixture of the crystallized salts of aconitine and picraconitine, it is desirable that in future the substance employed medicinally should have been prepared and separated from picraconitine (if present) by extracting the mixed alkaloids from the roots by Duquesnel's process; recrystallizing the crude aconitine crystals thus obtained from ether or analogous solvents, so as to separate picraconitine and the other non-crystallizable bodies; converting into a crystallized salt (for which purpose the hydrobromide is well fitted); and finally regenerating the alkaloid (if required in the free state) by sodium carbonate, and crystallizing from ether; in this way a perfectly definite homogeneous substance is obtained, possessing in a high degree the physiological powers of aconite root.—*Journ. Chem. Soc.*, Feb., 1877, 155.

The Value of Mushrooms as Food.

BY THEOD. HUSEMANN.

THE popular use of edible mushrooms and the problem how to facilitate their general employment without risk of poisoning, is a theme which deserves the highest attention of public economists. A valuable article of food, which occurs nearly everywhere in colossal proportions, is at present completely neglected, although it is worthy, on account of its chemical composition, to be placed by the side of meat, the most important nitrogenous food of man. In many portions of Germany the vegetation of fungi, in favorable years, is so prolific that a single person is able to collect in ten or fifteen minutes sufficient food for several families—not to speak of such giant-mushrooms as *Fistulina hepatica*, a single one of which sometimes attains a weight of thirty pounds, capable of furnishing sustenance for a whole family. *Clavaria Botrytis* and *Clavaria flava*, *Boletus edulis* and other allied species occur in such immense quantities, that the gathering of several hundredweights would be a very easy task. The food value of mushrooms has heretofore been made the subject of exhaustive investigations by Kohlrausch and Siegel, who found in 100 parts of *dried Morchella esculenta* 35.18 per cent. of protein, in *Morchella conica*, 29.64 per cent., and in *Helvella esculenta*, 26.31 per cent., besides about 2.3 per cent. of fatty matters, and a considerable quantity of sugar (mannite): in *Morchella esculenta* (dried), as much as ten per cent. In addition, these mushrooms contain a very high percentage of potassium salts, and of phosphoric acid, amounting to 46–49 per cent. of the ash. The following other fungi have also been examined:

Boletus edulis: in 100 parts of dry substance, 22.82 protein; 5.14 mannite; 1.98 fat. The ash contains 50.95 potassa and 20.12 phosphoric acid.

Cantharelles cibarius: 10.68 protein; 23.43 mannite; 1.38 fat. The ash contains 48.75 potassa, and 31.32 phosphoric acid.

Clavaria flava: 24.43 protein; 4.81 mannite; 2.13 fat. The ash: 51.47 potassa, and 35.07 phosphoric acid.

Tuber cibarium: 36.32 protein; 2.48 fat. The ash: 55.97 potassa, and 30.85 phosphoric acid.

Agaricus campestris: 20.63 protein; 1.75 fat; 4.93 mannite; 7.13 fermentable sugar. The ash: 50.71 potassa, but only 15.43 phosphoric acid, most of which is replaced by sulphuric acid.

It is highly probable that age and location produce variations even in the same species, not only as regards the percentage of protein, but also the composition of the ash. But these differences are so insignificant that they have no effect whatever upon the high rank which mushrooms occupy among nitrogenous foods. Kohlrausch compares the most usual of the latter in reference to their percentage of nitrogen, in the following tables:

Protein-substance calculated for	Beef.	Veal.	Wheat bread.	Oatmeal.	Barley-bread.	Leguminous fruits.	Potatoes.	Mushrooms.
100 parts of dry substance.	38.69	44.05	8.03	9.74	6.39	27.05	4.85	33.0

This comparison shows that the statement made above, regarding the neglect of one of the most accessible and valuable articles of food, is well supported. It is considered one of the greatest merits of Liebig, that he made the immense quantities of otherwise almost useless South American beef serviceable to man in the shape of extract. The nutritive and therapeutic value of this depends in a great measure upon its percentage of potash-salts and of phosphoric acid; and a simple comparison will show that an equally valuable food may be prepared, in the form of extract, from mushrooms.

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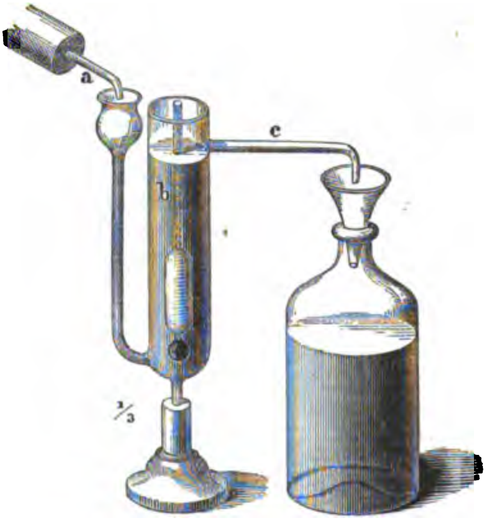
* Duquesnel's process consists in exhausting aconite roots with alcohol acidulated with tartaric acid, evaporating the extract at temperatures not exceeding 60° C. (140° F.), precipitating by sodium bicarbonate, and crystallizing the precipitate from a mixture of ether and light petroleum spirit.

This extract, besides, can be prepared so as to retain the peculiar aroma of the mushroom, which is very pleasant for itself, and is even more highly valued as a piquant addition to meats in the form of catsup, while the Fray-Bentos extract possesses a flavor by no means agreeable to all consumers. It is true, that some species of fungi, as *Boletus* (which are by far the most numerous and common), are almost devoid of this aroma, but they are at least free from any disagreeable twang, and, if proper care be exercised to avoid the poisonous ones, the labor of collecting and preparing an extract from them for culinary and therapeutic purposes would richly repay some enterprising pharmacist.—From *Pharm. Handelsbl.*, No. 80.

Mohr's Controlling Receiver.

In distillations it happens not unfrequently that the finished distillate is weakened and perhaps spoiled by subsequent heavier condensed products, unless some precaution is adopted to indicate the moment when the receiving vessel must be changed. To obviate this difficulty, Mohr has devised an apparatus, which he terms "Destillations-hüter,' and which we have translated into "Controlling Receiver," an illustration of which is annexed. It is entirely constructed of glass, and almost explains itself. The condensed distillate flows into the side-tube at *a*, and enters the middle cylinder *b* from below, passing by means of an overflow into the main receiver. The cylinder *b* contains a small hydrometer, comprising a small portion of the specific gravity scale, appropriate to the particular liquid to be condensed. For instance, a small hydrometer, bearing on a scale of two and a half inches the specific gravities from 0.790 to 0.850, is adapted for alcoholic liquids. The whole range of specific gravities occurring in pharmaceutical liquids extends from about 1.900 (sulphuric acid) to about 0.720 (ether), and contains therefore 1180 degrees. The just-mentioned small instrument, which is about four inches long altogether, ranging from 0.790 to 0.850, contains only 60 degrees. The whole range of specific gravities, therefore, divided over such small scales, would require about nineteen or twenty spindles. But this number is in practice unnecessary, because in many cases other criteria are relied upon to distinguish between fractions of a distillate. Since the condensed product gradually increases in density, it is only necessary to observe the gradual rise of the hydrometer, and to change the main receiver whenever the proper moment arrives.



Mohr's Controlling Receiver.

On Creasote and Carbolic Acid.

Mr. Adolph Grätzel, of Hanover, has published the results of an investigation of the reactions which have been recommended to distinguish carbolic acid from creasote, having received a sample of Morson's creasote for analysis. This latter product is preferred in England, on account of its more agreeable odor, to the continental creasote prepared from beechwood tar. For the purpose of establishing some reliable data for the analysis, the author first examined the behavior of various reagents towards pure phenol and purified beechwood-tar creasote, and afterwards towards a mixture of these latter; but in the latter case he found that a quantity of phenol below 15 per cent. in creasote can hardly be detected. The best method would be, either fractional distillation, or the preparation of a potassium compound by means of a saturated alcoholic solution of potassa, which must be crystallized from ether. In this case the phenol-compound remains in the mother-water, where it may be recovered by separation with an acid, and by subsequent distillation.

His preliminary examination of Morson's creasote having already convinced the author that it greatly differed from beechwood-tar creasote, he subjected it to further study, and found that, on adding to it caustic alkali, it exhaled an intense odor of refined oil of turpentine, which is indeed the peculiar guise of this kind of creasote. Its high boiling point (214°–239° C.), led to the suspicion that there may be present some other oils, which was confirmed by the different odors and different behavior of the various distilled fractions, although it was impossible to separate them from each other completely. The author succeeded in preparing a product entirely identical with Morson's creasote, from pinewood-tar, an operation which is extremely easy and simple, while the preparation of creasote from beechwood-tar, on the contrary, is beset with many difficulties. But while beechwood-tar creasote consists mainly of guaiacol, with only small quantities of cresol, the pinewood-tar—or Morson's creasote lacks this constituent entirely, and should therefore be discarded or rejected for medicinal purposes.*

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* The author naturally does not mean to declare Mor-

Pure beechwood-tar creasote must have the following properties: It is a colorless, at most light straw-yellow oily liquid, of spec. grav. 1.080, distilling unaltered between 200°–225° C. Exposure to light and air, even for months, should impart to it at most only a dark wine-yellow, but never a red color, which would be indicative of foreign constituents. It must be entirely soluble in caustic alkali, and on adding water no oily hydrocarbons must be set free. These latter, if present, are very difficultly removable, and possess a very disagreeable odor. It is soluble in 80 parts of cold water, and in less of boiling water, but the excess separates on cooling. It is miscible with 50 per cent. of its volume of glycerine of spec. grav. 1.250. (Morson's creasote is insoluble in glycerine of 1.250.) The above table exhibits the reactions of *beechwood-tar creasote* (which are identical with those of chemically-pure *guaiacol* and *cresol*), *carbolic acid*, and *English creasote*. —*Arch. d. Phar.*, Feb., 1877, 130.

REACTIONS OF CREASOTES AND CARBOLIC ACIDS.

A. *In Aqueous Solution.* To 15 drops of the solution to be tested is added 1 drop of the reagent.

Reagents.	Beechwood-Tar Creasote.	Carbolic Acid.	English Creasote.
Ferric chloride (cryst.), dissolved in 10 parts water.	Blue on first contact, then brown; on standing, orange.	Permanently violet.	Blue on first contact, then olive-green; finally dirty yellow.
On further addition of same.	Dark brown precipitate.	Permanently violet.	Light brown precipitate.
Ferric acetate, dry, in 10 parts of water.	Brown, then with a shade of violet. Lastly brown precipitate.	Brown and clear solution.	Brown and clear solution.
Ferric sulphate, dry, in 20 parts of water.	Blue, then with a shade of violet. Lastly brown precipitate.	Permanently violet.	Grass-green on first contact; then yellow precipitate.
Plumbic nitrate in 10 parts water.	Clear; no reaction.	Opalescence; on standing, small deposit.	Opalescence; on standing, small deposit.
Stannous chloride in 10 parts water.	White precipitate, soluble in excess of reagent.	Small precipitate, insoluble in excess of reagent.	Small precipitate; insoluble in excess of reagent.
Plumbic acetate, neutral, in 10 parts water.	White precipitate, soluble in excess.	Small precipitate, soluble in excess.	White precipitate, only partially soluble in excess.

B. 1 PART DISSOLVED IN 10 PARTS OF 92 PER CENT. ALCOHOL.

Aqueous solution of ferric chloride with one drop of alcoholic solution.	Blue on first contact, then green.	Violet on first contact, then green.	Green on first contact, then fine azure-blue.

C. CARBOLIC ACID AND CREASOTES UNMIXED WITH ANY SOLVENTS.

Saturated alcoholic ferric chloride solution with 1 drop.	Dirty violet.	Greenish-yellow on first contact, then brown.	Green on first contact; then a light mud-brown.
With several drops.	At once green.	At once green.	At once green.

Oxide of Zinc in India-Rubber Goods.

IN a recent number of the *Deutsche Industrie Zeitung*, in regard to the use of oxide of zinc in India-rubber, it is stated that resort to such rubber tubes and stoppers for nursing-bottles was proven so injurious to health that the agitation against it has had the effect of driving it from the market.

B. Tollens, of Göttingen, has, however, found that most of the toys, dolls, animals, etc., are still made of rubber with oxide of zinc in it. A case where a child was taken sick after playing with an India-rubber doll, and putting it in the mouth frequently, and where the doll, on being thrown into vinegar, became covered with an incrustation, probably acetate of zinc, first directed Tollen's attention to the subject. He made an analysis of the doll, and found that it contained not less than 68.58 per cent. of oxide of zinc. Some lime, oxide of iron, and phosphoric acid were also discovered. Another doll, purchased in Brunswick, and especially recommended as "harmless," gave 57.58 per cent. of ash, which consisted of oxide of zinc, with traces of impurities—lead, iron, lime, and sand.

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son's creasote inert or injurious, but he implies that the previous experiences of continental physicians, which are based on beechwood-tar creasote, make the use of the English creasote undesirable.

The Pharmacopœia Test of Quinia Sulphate, and the Presence in the latter of Cinchonidia.

DR. B. H. PAUL has contributed some important criticisms on the test adopted in the British Pharmacopœia, for determining the purity of quinia sulphate.[*] This test depends upon the fact that ether is capable of dissolving quinia freely, but cinchonidia [and chinchonia] sparingly. The proportion of ether in the Pharmacopœia is half a fluid ounce to 10 grains of the quinia sulphate, and the absence of any separation of alkaloid crystals after the addition of ammonia and ether, is stated to be evidence of purity. This, however, is not the case. Upon mixing one decigramme (0.1 gm.) of cinchonidia sulphate, with about 2 c.c. of ether, and adding ammonia sufficient to separate the base, the presence of the insoluble alkaloid becomes sufficiently distinct. But when the same quantity of cinchonidia salt is mixed with a large proportion of quinia, the result is different, and it appears that the presence of quinia increases the solubility of cinchonidia in ether, or at any rate prevents the latter from separating in a crystalline state. Dr. Paul has applied the Pharmacopœia test to quinia sulphate, which he ascertained by other means to contain 10 per cent of cinchonidia sulphate; but the mixture remained perfectly limpid, and any one applying the test would say that the salt was absolutely pure. The limit, within which cinchonidia cannot be detected by this process in quinia, is therefore much higher than has been heretofore supposed. Some authorities give this limit as ½ per cent., others as 2 and 3 per cent.; but Dr. Paul is inclined to think that less than 10 per cent. cannot be detected. A mixture consisting of 0.5 gm. of quinia sulphate, and 0.05 gm. (10 per cent.) of cinchonidia sulphate does not show a particle of crystallization.

In applying the Pharmacopœia test, although there would be nothing strictly wrong in using the proportions indicated in the British Pharmacopœia—half a fluid ounce of ether to 10 grains of the sulphate to be examined—this is very much in excess of what is needed. [The United States Pharmacopœia only prescribes 60 grs. of ether, = 84.4 minims, for 10 grains of the sulphate.] Dr. Paul states that he has made many mixtures of the two salts, and that even the presence of 30 per cent. of cinchonidia might pass unnoticed. But even with much smaller quantities of ether, it is impossible to rely on its use.

The plan which he has adopted for detecting the presence of cinchonidia is that of fractional crystallization, which he finds to give a speedy indication of its presence. About 30 grains of the alkaloid salt are put into a capsule, a fluid ounce and a half of water are added, and heat is applied until the salt is nearly dissolved. The water is insufficient to dissolve it entirely; but when heated up to the boiling point, the greater part of the quinia sulphate is dissolved. Upon cooling, most of the latter is deposited, and the more soluble cinchonidia sulphate remains in solution. The liquid portion is then a saturated solution of quinia sulphate, together with any cinchonidia that may be present. By applying the test to that liquid, an indication may be got of cinchonidia, if present. This is a modification of the test which has been very much used on the Continent, known as *Kerner's* test, and the one adopted in the German Pharmacopœia. The latter consists in adding 20 c.c. of distilled water, at 15° C., to 2 gm. of the salt, briskly shaking, and filtering after 30 minutes at 15° C. Five c.c. of the filtrate are put into a test-tube, and 7 c.c. of ammonia are poured carefully on top. The tube is closed with the finger and gently reversed, when either immediately or in a short time the contents of the tube will form a perfectly limpid solution, if the salt was pure. This test is very reliable and founded on very sound principles, which are these: Quinia sulphate is sparingly, but cinchonidia sulphate readily soluble in water, of which the former requires 750, the latter 100 parts; so that putting these two facts together, a very good indication is obtained as to the presence or absence of cinchonidia. The defect attaching to this test lies in its application. If, for instance, a sample of quinia sulphate, or a mixture containing 1 per cent. of cinchonidia sulphate, be treated with cold water, and the cold filtrate be treated with an equal volume of ammonia (spec. gr. 0.920), the result is a perfectly clear solution. But when the same salt has been treated by boiling, and even when treating the cold liquid with ether, the cinchonidia will separate.

In an examination of nine samples of quinia sulphate, Dr. Paul found cinchonidia present in all cases, varying in amount from 1 to 10 per cent. (See below.)

Between these two extremes of 1 and 10 per cent. there is a very wide margin, and Dr. Paul thinks that the circumstance, that such quantities may be overlooked in testing quinia, is important both to manufacturers and to pharmacists, who are liable to be placed in circumstances of difficulty on account of this impurity. In the first place, a manufacturer, who produced a pure article, might be prejudiced in tendering for contracts by being placed in disadvantageous competition with other persons, who offered quinia of the character mentioned, containing 10 per cent. of cinchonidia, a proportion amounting, at the present prices, to a difference of ten pence on the ounce, which is a large extra profit on the quinia.

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[*] The test referred to is this: 10 grains of quinia sulphate, with 10 minims of diluted sulphuric acid and half a fluid ounce of water form a clear solution, from which ammonia throws down a white precipitate. This redissolves on agitating the whole with half a fluid ounce of pure ether, without the production of any crystalline matter floating on the lower of the two strata into which the agitated fluid separates on rest—indicating absence of quinidia and cinchonia. The upper stratum of fluid, if entirely removed by a pipette and evaporated, leaves a white residue, which, when dried in the air without heat, weighs 8.6 grains, and is pure quinia.

The process employed by Dr. Paul for the analysis of the nine samples was as follows: Four or five grammes of the dried salt were dissolved in 80 to 150 c.c. of boiling water: when cold, the clear liquid was removed from the crystallized quinia sulphate, and shaken with ether so as to leave a distinct layer undissolved. On the addition of ammonia in excess, the alkaloid separated was in most cases only partially soluble in the ether; with the samples containing least cinchonidia, the whole of the alkaloid was at first dissolved by the ether, but after the lapse of a few hours the cinchonidia was deposited in the form of crystals, which were collected on a filter and weighed. The quinia sulphate, which separated on cooling the hot solution, was again treated as at first, and the mother-liquor again mixed with ether and ammonia. In this way a further quantity of alkaloid insoluble in a moderate proportion of ether was obtained, and by repeating the process a third time another small quantity was extracted. The samples were all dried at 212° F. in a weighing glass capable of being perfectly closed immediately on being removed from the steam-bath. The results in all cases indicate the minimum quantity of cinchonidia which the process could indicate:

Sample.	Water of Crystallization.	Cinchonidia Sulphate.	
		Dry.	Equal to Crystallized.
1	15.05	7.98	9.19
2	15.51	7.51	8.64
3	14.90	4.22	4.86
4	15.04	5.92	6.81
5	14.20	.99	1.14
6	15.15	3.16	3.64
7	13.67	4.90	5.64
8	8.10	4.55	5.24
9	10.37	5.44	6.26

—*From Pharm. Journ. and Trans.*, 1877, Feb. 10.

Determination of Albumen in Urine.

According to J. Stolnikow, urine containing albumen is diluted with water, until a sample poured upon some nitric acid contained in a test-tube produces still a faint white ring at the point of contact, after a lapse of 40 seconds. The number of *volumes* of water, added to the volume of the urine (which may be taken as 1) is divided by 250, and the quotient will be the percentage of albumen in the urine. This relation has been established and confirmed by gravimetric determinations.—*Chem. Central-Bl.*

To distinguish between Madder and Artificial Alizarin as Dyes for Cotton.

The fabric is first saturated with solution of permanganate of potash, and then dipped in an acid. By this treatment madder-red becomes yellowish; artificial alizarin, on the other hand, gives a rose-red color. The difference may be shown more decisively if the article is dipped first in bichromate of potash and then in a saltpetre solution; in this case the madder dye is completely discharged, whilst the artificial alizarin remains rose-red as before. If boiled for one minute in soda-lye of 18° B., and then washed with hydrochloric acid of 20° B., the madder red becomes a dirty orange color, the alizarin a beautiful bright yellow. To make the permanganate solution, one gramme of the salt is dissolved in 200 c.c. of water; for the further treatment, hydrochloric acid of 3° B. is used. After another dip in the first solution, and washing, it is finally treated with a solution of oxalic acid of 1° B. The bichromate of potash solution is 10 grammes of salt in 200 c.c. of water, and the solution of nitre must have a density of 50° B.

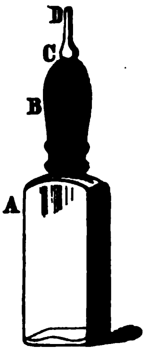

Fig. 1.

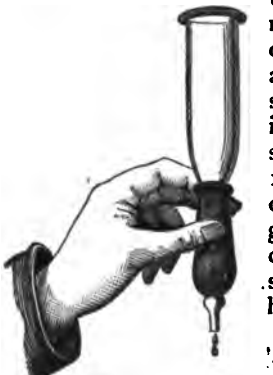

Fig. 2.

A Minim- or Drop-Filter.

A Minim- or Drop-Filter.

The annexed cut represents a contrivance for obtaining perfectly clear and filtered drops of a liquid, such as collyria, opium or arsenic preparations, which the patients are required to take by drops, and solutions of alkaloidal salts used in hypodermic injections. A small vial, either square, as in *A*, or round, of the capacity of about 1 fl. oz., is provided with a small india-rubber cap *B*, having somewhat the shape of an olive; the upper extremity of this bears a small glass tube, *C D*, of very fine calibre, and containing in the small bulb *C* a pellet of cotton. When using it, it is merely inverted, and by a gentle pressure upon the rubber-cap the desired number of minims obtained. The cotton acts not only as a filter for the liquid, but likewise for the air which enters the vial.—From *Rép. de Pharm.*, 1877, 186.

Examination of some Commercial Citrate of Iron and Quinia.

In connection with a preceding article, we give an abstract from a subsequent paper by the same author (Mr. B. H. Paul), on the percentage of alkaloids found in commercial citrate of iron and quinia. The British pharmacopœia requires this to contain 16 per cent. of quinia (dry), and the application of the test, as generally performed, is more apt to yield figures in excess than below the true percentage, owing to the reluctance with which the precipitated quinia parts with its water. Mr. Paul examined three samples of the salt. The first was contained in a 1 oz. bottle, bearing the label of a wholesale druggist, in London, with the name and address of the firm, and describing the preparation as "Citrate of Iron and Quinine, British Pharmacopœia." On testing this sample according to the official directions, it gave a precipitate amounting to 9.3 per cent., instead of 16 per cent., or little more than one-half of what it should have been. On testing this sample by another method, and carefully extracting the alkaloid by ether, the total amount of the dry alkaloid was 8.96 per cent. A further examination of this alkaloid showed that it was not entirely quinia, but that nearly one fourth of it consisted of cinchonidia, with some amorphous alkaloid and cinchonia. The actual proportions were as follows:

Quinia	6.80
Other alkaloids	2.16
Total	8.96

Sample No. 2 was also in a 1 oz. bottle, and bore a similar label and seal as No. 1. By the Pharmacopœia test this sample assayed 11.7 per cent. When tested with ether, the dry alkaloid extracted in this way amounted to 9.7 per cent., and on further examination of this alkaloid, it proved to contain, as in the previous instance, other alkaloids besides quinia; the actual figures being as follows:

Quinia	7.08
Other alkaloids	2.62
Total	9.70

Sample No. 3 was received in a paper package, and had already become somewhat damp. When tested by the Pharmacopœia method it gave a precipitate which in drying gave indications that it was not quinia. This precipitate amounted to 8.87 per cent. The alkaloids extracted from this sample by treatment with ether and thorough drying amounted to 6.96 per cent., and this consisted chiefly of amorphous alkaloids, namely:

Quinia	1.60
Other alkaloids	5.36
Total	6.96

The fact that in two cases the preparations here referred to professed to be in accord with the requirements of the Pharmacopœia, renders these results especially noteworthy.—*Pharm. Journ. and Trans.*, April 11, 1877.

Short-Armed Analytical Balances.

IN view of the favorable comments made by analysts upon the superiority of short-armed analytical balances over those at present in use, we insert here a description of the balance originally designed by Prof. Mendelejef, of St. Petersburg.*

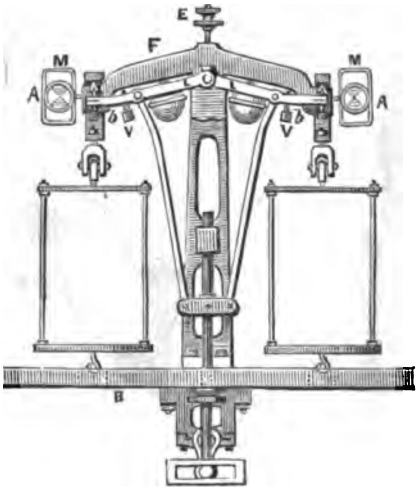

FIG. 1. Mendelejef's Balance.

The peculiarity of this balance is that it has very short arms. It is considered that this arrangement will save much time in weighing, whilst at the same time it will give results quite as satisfactory as those given by balances of precision, with arms of greater length. Mendelejef's balance was constructed by M. Salleron, of Paris. Its beam is stated to be only 12 centimetres (4¾ inches) in total length, and from the drawing its height would appear not to exceed 20 centimetres (7⅞ inches). All the parts of the beam are of aluminium bronze, so as to diminish its weight. The pans of the balance are suspended in the ordinary way by steel knife-edges, bearing on rock crystal planes. Its centre of gravity is regulated by the usual screw placed above the axis of suspension of the beam. The principal disadvantage of the beam of a balance being very short is, that its oscillations are necessarily of very small extent, and consequently small differences in weights compared are not so easily observed. To avoid this, instead of following the movements of the beam by means of the ordinary index-needle and divided arc, M. Mendelejef has fixed to each end of his beam a ring, having stretched across it very fine cobweb threads. Behind the ring is placed a micrometer M (Fig. 1), divided into tenths of a millimetre. By means of a small telescope the slightest movements of the beam can then be easily followed. With this arrangement it is found that when the balance has one kilogram in each pan, an additional weight of one milligram to either pan causes an inclination of 15 micrometer divisions, so that the error of a kilogram can be thus determined to $\frac{1}{15}$ milligram. The principal objection to this method is that it requires the observer to stand in close proximity to one side of the balance, so that there is a tendency to the temperature of the beam becoming unequally affected by the greater heat of the observer's body. One division on the micrometer scale of this balance is equivalent to 0.07 milligrams, while in the finest balance hitherto constructed—the Kilogram balance, constructed by Œrtling for the comparison of weights of one kilogram—one division is equal to 0.15 milligrams.

Mendelejef's balance is mounted on a column of platinum. Its size is so small that it can be covered by an ordinary bell receiver, which thus allows the weighings to be made in a vacuum. The capacity of the bell receiver is so small (about 2.000 c.c., or 120 cubic inches) that it admits of rapid and easy exhaustion. An arrangement for putting the beam in motion, or of arresting its oscillation, a little different from that generally adopted, is introduced into this balance. M. Mendelejef finds that by the ordinary construction, which consists of a supporting horizontal arm or cross-piece for releasing the arms of a balance, there is a tendency to lateral displacement of the agate bearings upon the steel knife-edges, with an occasional slipping of the bearings. To prevent this serious fault, he substitutes for the horizontal arms two levers, L, L (Fig. 1), jointed at the axis, placed in the small column supporting the beam. Near the extremity of each of these levers are firmly fixed screws, the conical points of which enter corresponding conical holes in the beam. By this arrangement all the points of the screws and the bottoms of conical holes continue in contact, without stopping, in all positions of the beam during its oscillations.

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* *Bull. de la Société d'Encouragement de l'Industrie Nat.*, May, 1875, p. 241. *Pharm. Journ. and Trans.*, March 11, 1876, p. 725. *Proceedings of Am. Pharm. Assoc.*, 1876, 50, whence we have the cuts. Bunge of Hamburg, and Wolters of London, manufacture less complicated short-armed balances, which have been further improved by F. Frerichs and Arzberger (*Annal. d. Chem.*, 178, 365, 382).

Reduced to the dimensions already stated (12 centimetres in length of beam), the balance could not be used in weighing bodies of large volume, as there is no room for them in the small bell cover. It may, however, be used for the purpose of weighing bulky articles by employing an additional apparatus, and placing the balance on top of an ordinary glass balance case, as shown by Fig. 2. From underneath one of the pans of the balance is suspended by a long wire a double pan, D D′, inside the glass case. Upon the lower pan, D′, is placed a series of weights, from one kilogram to the fraction of a milligram, the beam being counterbalanced by an equal weight placed in the pan suspended inside the bell cover from the other arm. The body of large volume to be weighed is placed in the upper pan, D, and weights are removed from the lower pan, D′, until equilibrium is restored. The weights thus removed represent the weight of the body weighed.

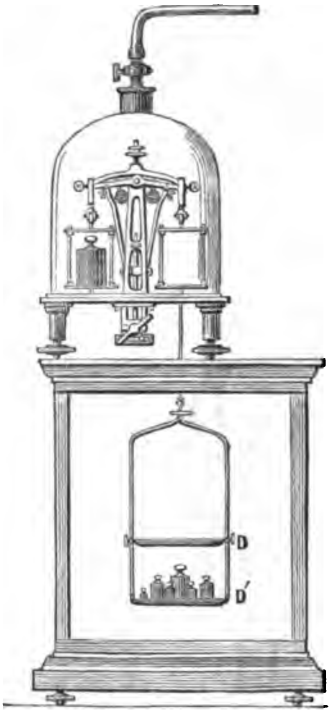


Fig. 2. Mendelejef's Balance.

Jaborandi in Bright's Disease.

Edward T. Bruen is physician to the Philadelphia Hospital, and has there noted the effects of jaborandi when administered in cases of Bright's disease. Seven cases are reported in the *Medical Times* of April 14th; three of them in detail. Two drachms of the drug in infusion were given every other day, and the effect in every case was to relieve the distressing symptoms in a marked manner. Dr. Bruen declares that he knows of no other agent which will afford so great relief. The steam-bath cannot generally be substituted in its place, and some cases were relieved by it when the steam-bath had entirely failed. He writes in the hope that the profession may be induced to make use of the drug, saying, in conclusion, that after some years' experience in the hospital in the treatment of Bright's disease, he has never had so favorable results from any other drug, or plan of treatment, in the management of this class of affections.

New Researches on Peptone.

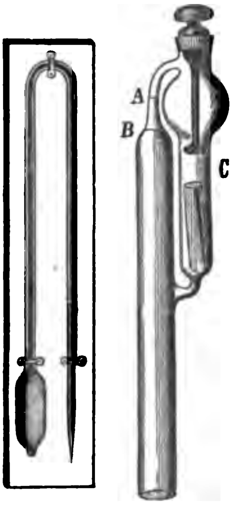
The chemical relationship of peptone to fibrin has been the subject of various investigations. Maly and Thiry obtained results which led them to conclude that both substances differed but little, if at all, in chemical composition, while Möhlenfeld found in peptone a considerably less amount of carbon and hydrogen than in fibrin. In order to arrive at more decisive results, A. Kossel prepared a standard peptone solution, which was divided into two portions, one of which (α) was treated with argentic oxide to remove chlorine. The peptone was now precipitated from both portions by alcohol, and each product analyzed. The percentage composition of the peptone from the original solution was found to be: C 49.08—H 7.00—N 15.17—S 1.16—O 27.56, while that of the other portion (α) was C 45.93—H 6.71—N 15.45—S 0.9—O 31.01. It is evident, therefore, that the treatment by argentic oxide has caused a difference in composition; and both formulæ show a greater discrepancy from the composition of albumen, than had been found by former investigators.—*Pflüger's Arch.*, 13, 309.

Sophistication of Officinal Roots.

A short time ago Mr. E. M. Holmes, Curator of the Museum of the Pharmaceutical Society of Great Britain, pointed out the frequent admixture of the root of *Imperatoria Ostruthium* (masterwort) with aconite root obtained from the Continent of Europe. In one parcel he found about five per cent. of the spurious root; and although this quantity is not large enough to seriously impair the activity of the remaining 95 per cent. of aconite, yet he suspects that the percentage may be occasionally greater. This supposition is in a measure confirmed by a report made by Mr. E. Merck, of Darmstadt (*Pharm. Zeit.*, 1877, No. 27), who found almost invariably aconite root as an admixture in parcels of the root of masterwort. In many parts of Europe this is a favorite popular remedy, but, according to Merck, it is impossible to find in the market any lots free from admixtures. The most common of these are the rhizome of veratrum and the tubers of aconite, besides gentian root (chiefly from Gentiana punctata, G. Pannonica, and G. purpurea), pimpinella, meum, and bistort root. "Whoever has once witnessed," says Mr. Merck, "the collection and drying of medicinal roots, as practised by the Alpine 'root-diggers,' will have no occasion to wonder at the frequent strange admixtures. There you may see these mock botanists sauntering forth on an expedition to dig gentian root,[*] and collecting anything which can be made useful, or will sell in the market. This omnium-gatherum is then dried at home upon hurdles or upon a large hearth, or perhaps in the sun. When dry the heaps are sorted, and how slovenly this is done, and how frequently things are thrown upon the wrong heaps, our experience has shown. Wholesale dealers have no time, nor would it pay them, to overhaul each parcel or bale of drugs and herbs; but those who desire to use them—manufacturing chemists and apothecaries—cannot afford to shun this task."

Esbach's Ureometer.

A NEW apparatus for the estimation of urea has been devised by Dr. Esbach, of Paris, which is figured and described in the *Bull. Gén. de Thérapeutique* (Feb. 15). The apparatus, which is called by the inventor *analyseur gasométrique*, consists of two parts, a generator *C* and a gasometer *B*. The gas, which is given off by the reaction of the materials placed in the generator, is carried to the receiver through the tube *A*. The generator has a bulb blown upon it at its upper third, is closed at the bottom, where it is connected with the receiver by a small solid glass bridge, and terminates above in a rather capacious neck, bearing a *very* accurately ground stopper. The latter is elongated, as shown in the cut, and has a knob-shaped end. When using the apparatus, it is immersed into a beaker of water—having at the bottom a contrivance into which the tube *B* may fit upright, so as to be immovable in all directions, except up and downwards—to such a depth, that the level of the water, measured by the lower line of the meniscus, stands at *A*. The reagent is then poured by means of a small glass-funnel into the generator, so as to fill the latter up to the commencement of the bulb. As the apparatus can be used for any determinations, where the amount of a substance is estimated from the volume of a gas given off, the reagent will vary in different operations; in the case of urine, however, the reagent best suitable is a solution of sodium hypobromite. The necessary quantity of urine (for this apparatus 1 cubic centimetre) is placed into a small tube of lesser diameter than the narrow part of *C* (see cut), the stopper removed and seized with the right hand, the tube inserted into *C* by means of the thumb and index-finger of the left, but without letting go of it, then the knob-like end of the stopper placed over its orifice, and by a dexterous movement the tube pushed down, while at the same moment the ground surfaces of stopper and neck meet and make the apparatus air-tight. The reaction begins at once, with considerable violence, and in order to relieve the pressure, the immersed open lower end of *B* is lifted up in the water (but not out of it), whereby the suspended column of water acts as an aspirator. After about one minute the reaction is finished, the tube *B* is again depressed in the water, until the level of the latter is the same inside and outside of the tube, and the degrees marked on the tube read off. These correspond to certain quantities of urea, determined with care experimentally, and properly corrected for temperature and pressure by means of a *baroscope*. This is a variety of barometer, consisting of a curved tube which carries a bulb on one end containing a chemically inert gas and a drop of water above a column of mercury, thereby imitating the conditions which exist in the ureometer.



The two instruments, ureometer and baroscope, must be used together, just as we use a thermometer in conjunction with a hydrometer, and the true percentage of urea is found by consulting the tables, which accompany the instruments and are calculated for all possible degrees which either of them are likely to indicate.

Preparation of thin Pencils of Silver Nitrate.

VERY thin pencils of caustic, such as are sometimes required for intra-uterine applications, may be prepared, according to A. Huber, in the following manner: silver nitrate is fused in a capsule, and the liquid drawn up, by slow and cautious suction, into a glass tube, the calibre of which is a trifle larger than the required diameter of the pencil. Especial care is to be taken that no cavities filled with air-bubbles are produced in the contents of the tube. When entirely cold, the glass tube is warmed by turning over a spirit-lamp, until the outer surface of the stick has become soft, when it may be easily pushed out by means of a knitting-needle. With a little practice, very handsome pencils, of considerable length, may be obtained in this manner.—*Schweiz. Woch. f. Pharm.*, 1877, 103.

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[*] The right of digging gentian in many portions of the Swiss and Tyrolean Alps is acquired by a regular lease.

On the Manufacture of Methylic Ether.

METHYLIC ETHER, C_2H_6O, was first obtained in 1834 by Dumas and Peligot, through the action of sulphuric acid upon methylic alcohol or wood-spirit. At common temperature it is a gas, becoming liquid at $-30°$ C. ($-22°$ F.) under ordinary pressure, and is colorless. Its vapor is visible in the medium in which it volatilizes, owing to its great mobility. It has an agreeable apple-like odor, burns with a brilliant flame, and is soluble in fatty oils, which circumstance is of importance, as such a mixture may be used as a refrigerant lubricant in machines. Caoutchouc is but little affected by it; this may therefore be used as a packing in the apparatus used for its condensation. Mr. Tellier, who prepares methylic ether on the large scale for manufacturers of ice and other purposes, uses the following process to obtain it in a liquid state: A given quantity of sulphuric acid is mixed with a little more than its own bulk of anhydrous methylic alcohol until the mixture has a density of 34° Baumé. The mixture is heated in a retort to a temperature not exceeding 125–128°, and the escaping vapors are led through a series of absorbers, the first of which, containing solution of caustic potassa or soda, absorbs carbonic and sulphurous acids; and the second, containing calcium chloride, dehydrates the ether-vapors. The latter are then conveyed into a compression-pump, from which they pass through the cold condensers in a liquid form. This product is then sent to the market in metallic cylinders.

The process may be carried on nearly continuously by heating the first charge, at a temperature not exceeding 128° until all ether-formation ceases, then cooling, and adding to the residual liquid, which has a density of about 45° Baumé, as much fresh wood-spirit as will reduce it to 34° B. This may be continued as long as the sulphuric acid retains its proper density.—*Arch. der Pharm.*, Jan. 1876, 57.

Podophyllin in Habitual Constipation.

DR. ROUSSELET publishes an article on this subject in the *Gaz. des Hôp.*, in which he attributes the ill-success which has frequently attended the use of this remedy, to the employment of a poor preparation. He thinks the treatment should extend over two to three months, according to the duration of the constipation, in order to induce regular action of the bowels at a certain time of the day. Dr. R. begins with one pill of a centigramme (gr. $\frac{1}{6}$), increasing to two if necessary, and continuing the amount daily during fifteen days. He then gives it every other day for a week, then every three days, and so on, increasing the interval every week or so. Should irregularity again supervene, he recommends the daily dose, diminishing it again gradually as before. The best time for taking the pill is upon sitting down to dinner; and the patient should endeavor to get into the habit of going to stool just after breakfast.—*Medical Times.*

Podophyllin in Hemorrhoids.

A RECENT number of the *Gazette des Hôpitaux* contains a communication by Dr. Rivière, in which, after agreeing with Dr. Rousselet in his high estimate of the value of podophyllin in habitual constipation, he goes on to express surprise that the latter had said nothing about the virtues of this drug in hemorrhoids. The action of the drug is simply to cause a soft passage on every occasion. The result is remarkable, but only temporary. The treatment must be kept up for many months in order to gain any permanent benefit.—*Medical Times.*

A Trial of Xanthium Spinosum.

SOME experiments recorded in the *Archives Vétérinaires* appear to demonstrate what has been feared from the first, that *Xanthium spinosum*, which has already begun to figure in the brokers' catalogues, will have to be dismissed to the limbo of unsuccessful specifics against hydrophobia. The experiments were made in the veterinary school at Alfort, by MM. Trasbot and Nocard. Eleven dogs were carefully inoculated with saliva from another suffering from hydrophobia. To six of these were administered doses of xanthium in proportion to their weight, whilst the other five were left to the unrestrained virulence of the saliva. The first dog began to show signs of madness on the thirteenth day after inoculation, and was one of those to which xanthium was administered. It died on the fourteenth day, after having taken 125 grms. of the powder. During the next fifty days seven more dogs died, but without presenting hydrophobic symptoms sufficiently decided to be taken into account. On the eightieth day another dog died, with all the symptoms of hydrophobia. This beast had been bitten also by the first dog that died therefrom. It weighed only 4.5 kilograms, and had 10 grains of xanthium powder administered to it daily for seventy-five days after inoculation. The experimenters therefore express an opinion that *Xanthium spinosum* has not the property of curing hydrophobia, or of preventing its development after either artificial or natural inoculation.—*Pharm. J. and Trans.*

Easy Method of Testing Adulterated Flour.

THE sale of adulterated flour seems to have assumed alarming proportions in Europe, so as to compel the sanitary authorities to interfere in the matter. Flour containing as much as ten per cent. of chalk, plaster of Paris, and even barytes has become a regular article of export from Holland. Prof. C. Himly has devised a very simple method for detecting such adulterations, based upon the varying specific gravities of pure flour and the usual adulterants. The specific gravity of limestone is 2.57–2.78; of chalk, 2.23; of barytes, 4.48; of gypsum (unburnt), 2.32; (burnt), 1.81; of marble, 2.72; and of bone-flour, 1.65. On the other hand, chloroform has a specific gravity of of 1.53, being therefore lighter than any of the before-mentioned substances (none of which it dissolves), but much denser than ordinary flour or starch. A small quantity of the suspected flour is introduced into a test tube, the latter filled to three-fourths with chloroform, and the whole well shaken. On allowing the mixture to stand at rest for a while, the mixture will exhibit several layers. The flour will collect just under the surface of the chloroform in the upper part of the test tube, while the accompanying impurities will be found deposited at the bottom. A very slight deposit, however, is found even in unadulterated flour; but this has a gray or brownish black color, and is probably only detritus from the millstone. It is self-evident that this method may be used also for quantitative purposes.—From *Zeitsch. d. Oest. Ap.*, *V.*, 1875, p. 559.

Treatment of Sick Headache.

Dr. Kinsman says: I prescribe to patients, when they arise in the morning and find one of their headaches approaching, thirty grains of bromide of potassium, dissolved in a gill of cold water. This is to be drunk at once, and complete quiet maintained for an hour; at the end of this period, if the pain still continues, the dose is repeated, and rarely do I find a third dose required. This is administered if demanded. This course produces a cessation of pain in all cases in which directions are carried out. The capacity for study or labor to full extent is not restored, but there is a relief from suffering. The fluid extract of ergot is also used with some success, but it is liable to cause vomiting, and it is so distasteful to many that they are unable to use it. Tincture of digitalis also seems in some cases to be of value.

Timbo (*Paullinia Pinata*, Lin.).

In the closing stages of hemicrania I have found morphine valuable, but when administered early I have never derived benefit, its use being followed by distressing sickness. Codeia in half-grain doses every hour produces the best effect in my case. Whiskey, or some other form of alcohol, was recommended by Anstie, and by Inman, but in all cases, if the quantity taken is followed by the first symptom of narcosis, the patient is made worse. This condition is indicated by numbness of lips and flow of saliva. This mode of treatment is based on the view that alcohol has a twofold action: primarily stimulant, secondarily narcotic. This agent can be so administered as to act only as a stimulant. The application of heat and cold, externally, is also of value. Heat I have most commonly found useful.—*Ohio Med. Recorder.*

On Timbo: Its Properties and Chemical Composition.

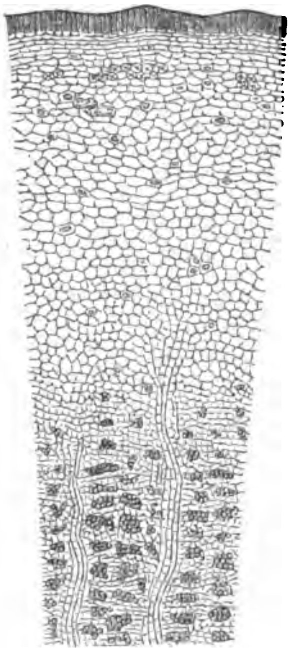
In 1846 Mr. Stanislas Martin first described, in the *Bulletin Général de Thérapeutique*, a substance called guarana, much used in Brazil, where it was obtained from a plant belonging to the family of *Sapindaceæ*. In 1817 Cadet de Gassicourt, and in 1822, Mérat mentioned this substance without indicating its origin. At the present time the *Guarana* or *Paullinia sorbilis* of Linnæus, occupies a place in our materia medica owing to its richness in caffeine.

Plants belonging to the *Sapindaceæ* are very common in Brazil, and comprise both trees and climbing shrubs. Some have such poisonous properties that the natives use their juices as arrow-poisons, while others are innocuous or simply narcotic. The Timbo (*Paullinia pinnata*, Lin.), belongs to the latter class. The Timbo is a tree found in Brazil, Mexico, the Antilles, and in Guinea. The leaves are composed of five leaflets, oval, lanceolate and crenellated. The flowers are polygamous, diœcious, and have five, or rarely four parts; an imbricate calyx; four unequal petals furnished with scaly appendices; eight stamens situated around a disc with notched edges; ovary with three cells, surmounted with three styles, and containing three seeds, and commonly one which has aborted, which is provided with an arillus and contains under its envelope an embryo without albumen. The bark of the timbo root is the only part used in Brazil; it is of a yellowish-gray color, and variable in length and thickness. In transverse section one observes, from outside inwards, 1st. An exterior layer of periderm, composed of numerous masses of corky or woody tissue. 2d. On reaching the central parenchyma one recognizes here and there small masses of hardened cells (that is to say, having early incrustations); this element is frequent in the bark and in this situation. 3d. A very thick layer of cortical parenchyma, in which the cells are distended with starch. 4th. In the midst of this parenchyma cells containing a resinous material. 5th. Bundles of liber arranged in interrupted lines and mixed with rays of the medulla. This bark is with difficulty reduced to powder. Five grammes of this bark will absorb, cold, fifteen grammes of distilled water.

The bark of timbo root has an agreeable aromatic odor, slightly resembling musk. In Brazil it is only employed externally. Poultices are made from it with boiling water, which are applied to the side in affections of the liver. It often causes intense eruptions, in which case the application is discontinued.

M. Martin has isolated from the root-bark, starch, resin, an essential oil, chlorophyll, tannin, an organic acid, traces of glucose, and an alkaloid to which he gives the name of "timbonine."

By first treating the finely powdered bark by carbon disulphide, the extraction of the alkaloid and other principles is facilitated. The sulphate of timbonine crystallizes in white needles.—*Bulletin Gén. de Thérap.*



Section of Timbo Root.

The Best Means for Securing the Good Effects of Medicines in the Cure of Disease.

In the *American Medical Bi-Weekly* of April 28th is a paper by J. W. Compton, M.D., on a subject which, although often written upon, still merits more attention than it commonly receives. Most medicines, to be of any value, must be soluble and capable of being taken into the circulation. Dr. Compton believes that much unsuccess in the administration of remedies may be due to the fact that they are often administered in such form that the fluids in the alimentary tract are not capable of dissolving them, and he quotes a number of instances in which an examination of the dejections disclosed the presence of pills entire. It is probably true that some pill-masses, however readily they may be soluble or miscible in water, or in the digestive secretions in a state of health, are quite apt to retain their form and ingredients when taken in sickness.

Erythroxylon Coca in the Treatment of Febrile Diseases.

Dr. McBean, of Newcastle, refers to the observations of Dr. Ringer, showing that in all febrile diseases, with the exception of yellow fever, the amount of urea formed is abnormally increased, and that as urea represents the wear and tear of the frame (tissue metamorphosis), it may be regarded as affording, in fever, not only an index of the severity of the disease, but also a direct clew to an exceedingly important line of treatment. Dr. McBean submits that as throughout the duration of a case, say of typhus fever, there is present a specific morbific agent which so influences the sympathetic nervous system as to produce or permit an amount of tissue metamorphosis (indicated by the increased quantity of urea excreted), not only incompatible with health, but most probably productive of the various febrile phenomena, the sum of which constitutes this disease; therefore, to restrain such metamorphosis until the morbific agency has ceased to exist, is clearly indicated as the most desirable end to accomplish in treatment. To accomplish this end he believes we possess a very efficient remedy in coca, the dried leaves of the *Erythroxylon Coca.* Dr. McBean gives several cases in which good recovery took place after the use of coca. He states that he has also found coca of great service in both acute and chronic pneumonic phthisis. Where there is much febrile excitement it lowers the temperature, and restrains or materially alleviates the distressing perspiration.—*Br. Med. Jour.*

Metallotherapy.

MM. Charcot and Burg recently performed some experiments at the Salpêtrière, in which three patients—one cataleptic, the others hysterical—were subjected to the application of different metals to anæsthetic surfaces. While the eyes of the patients were bandaged, pins were passed through the flesh of paralyzed limbs without their becoming aware of it. Subsequently, plates of copper or gold being applied for a few minutes, sensibility returned, and the slightest prick caused them to scream.

Chamomile Fumes in Hay Fever.

Drs. Barnes, brothers, of Illinois, mention a simple remedy which has been used with excellent results by them in a number of cases of hay fever, after all the usual methods of treatment had failed. The remedy is the inhalation of the smoke from burning the flowers of chamomile (Anthemis nobilis). The fumes should, of course, be brought into contact with every portion of the nasal passages, in order to receive the full benefit of the drug. A few coals on a plate, and the flowers dropped on them, is a good way for using it.

To Lessen the Pain of Blisters.

M. Ernest Besnier says that the pain attending a blister may be reduced to a minimum by following this plan: Apply the blister early in the morning; after a few hours—five to ten at the outside—remove it as soon as the epidermis begins to rise slightly. After the plaster is removed the skin may be covered with a piece of bibulous paper thickly coated with cerate or cold cream. The vesication continues almost painlessly, and the patient also avoids the renal troubles which sometimes occur when the blister is left too long.

Historical Notes on Opium.*

CONFIDENCE in the doctrines of Galenus had already been undermined to such a degree among the successors of Paracelsus, that they began to reckon opium among the *calida* (warming remedies), instead of placing it among the *frigida* (cooling remedies), with Galen. This was done by Felix Plater,[1] Bauhinius,[2] Libavius,[3] Quercetanus,[4] and others. Plater placed such a reliance upon opium, that he pretended to be able to retain or restore the life even of those who had been broken upon the wheel. His trochees, composed of opium, sugar, cinnamon, musk, tragacanth, and wine, were very famous in his time as a remedy against cough and hæmoptysis. According to Quercetanus, who was himself one of the most zealous chemists and followers of Paracelsus, the "sulphurous and oily constituents of opium produce its narcotic effects; the sulphur is dissolved in the body, its vapors mingle with the blood and are carried to the brain, where they fill up the ventricles and thereby produce narcosis." Similar views were entertained by the philosopher Cartesius;[5] according to him the soporific effect is produced by the accumulation in the pores of the brain of the vapors of opium itself. Helmont,[6] on the other hand, denies the correctness of this explanation, because "the sulphur is in combination and not free." According to him, opium contains a bitter oil having soporific properties, and a sharp-tasting salt possessing sudorific effects. Between the contradictory statements of the old and new schools, respecting the heat or cold-producing effects of opium, he seeks to make a compromise by acknowledging it to be a *calidum*, having, however, *occasionally* the qualities of a *frigidum*, since it is capable of overpowering or entirely driving away the *archeus*.[7] His principal antidote for poisoning by opium is caustic lye. "Opium should not be administered without corrigents. Happy the patient whose physician knows how to remove the deadly principles from the poppy, and to retain the salubrious ones; else the noxious ingredients are taken with the useful ones, and the effect of the latter is neutralized." His favorite solvent for opium was quince-juice, which he considered equal to alkahest, the imaginary universal solvent.

Helmont's contemporary, De le Boë Sylvius,[8] the founder of the chemiatric school, proposed a new theory to explain the effects of opium. He considered the "spirit of life to resemble spirits of wine, and to circulate in the nerve-tubes. The former are coagulated by opium in the same manner as the latter by volatile alkali." Among his followers opium became very fashionable. One of these, Cornelius von Bontekoë,[9] appears to have used it very indiscriminately, for he recommends as the surest way to prolong life, "incessant smoking of tobacco, constant drinking of tea, and frequent doses of opium." A similar curious recipe for prolonging life had previously been given by Baco of Verulam,[10] who maintained that life is prolonged by moderation in mental or corporeal work, moderate use of opium, nitrum, and the aurum potabile (drinkable gold), whenever it should be discovered.

Werner Rolfink,[11] the celebrated chemist and anatomist, gave important directions on the use of opium in phthisis; he says: "It is indicated in all cases where an acrid mucus flows down into the chest; but it is fatal in ulcerous conditions of the lungs, as it interferes with expectoration, and thereby causes suffocation."

The surgeons of the sixteenth century appear to have made considerable use of opium in the

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[*] Second portion of an abstract from a paper by Dr. Otto Billinger, of Munich; the first portion will be found in the August number of our last volume (v., p. 229). The notes are our own.

[1] Born in 1537, died 1614. Author of an anatomical work entitled "*De partium corporis humani structura et usu*," Basle, 1583.

[2] Johann Bauhin, 1541–1613, born at Basle, died at Mümpelgard. His work entitled "*Plantarum historia universalis nova et absolutissima*," the fruit of nearly fifty years' study, was published after his death. His younger brother, Kaspar Bauhin (1560–1624) was professor of botany at Basle, and author of the celebrated botanical work: *Πιναξ theatri botanici*, being an index to all previous botanical works, with synonymes.

[3] Andreas Libau or Libavius, 1540–1616, born at Halle, died at Coburg. He was the first to banish from his writings the mysterious language of the alchemists, and to describe the processes in an intelligible manner. His *Alchemia* may be termed the first real treatise on chemistry.

[4] Joseph Duchesne, surnamed Quercetanus, Lord of La Violette and physician to Henry IV. of France; born at Armagnac, in Gascogne, in 1521, died at Paris, 1609. Wrote: *L'Antidotaire spagyrique, pour préparer et conserver les médicaments.—Pharmacopœa dogmaticorum restituta.—Recueil des plus rares secrets touchant la médecine métallique et minérale;* and many others.

[5] Réné Descartes, or Renatus Cartesius, born 1596 at La Haye, in Touraine, died 1650, at Stockholm. Founder of a new system of philosophy and of analytical geometry.

[6] Johannes Baptista van Helmont, born 1577, at Brussels, died 1644. He was the first to recognize the properties of gases, which word he invented for the purpose, according to his own statement, in imitation of the Greek word chaos. His works were published by his son, under the title of *Ortus medicinæ*.

[7] This is, according to Paracelsus and Helmont's theory, the all-pervading primum mobile, or fundamental principle of life, which penetrates all parts of the living body, and on the condition of which depends sickness or health—on its presence life, on its absence death. The word is formed in imitation of the term *ἀρχαίη φύσις*, "fundamental principle of nature," used by Hippocrates.

[8] Franz De le Boë Sylvius, 1614–1672, born at Hanau, died at Leyden. His efforts to explain the processes of life and the action of remedies upon the body, by means of chemical theories, were made abortive by the insufficient progress of chemistry at this time. He was very fond of using preparations of antimony.

[9] His real name was Dekker, and he was surnamed Bontekoë from the tavern-sign of his father, representing a piebald cow (Bunte Kuh). Born at Alkmaer in 1647, died 1685 at Frankfort. See Sprengel's *Gesch. d. Med.*, xiii., 6.

[10] Francis, Viscount of St. Albans and Lord of Verulam, born 1561 at London, died 1626.

[11] Born at Hamburg, 1599, died at Jena, 1673. Introduced at Jena the dissection of human bodies, which was nicknamed "rolfinking." He established also a botanical garden and a chemical laboratory.

external treatment of wounds; but this practice was severely censured by the more observant members of the profession, as for instance, by Felix Würtz, of Basle, who particularly condemns its employment in gunshot wounds. Opium was likewise used, as in our times chloroform, to deaden the pain during operations; this was also disapproved by many, who contended that no sleep short of death itself could cause total insensibility to the pain of an operation.

Fallopia[11] relates a case of poisoning by opium, such as it occurred not unfrequently at that time. He received a condemned criminal, whom he was permitted to kill in any way he pleased, and to retain for dissection. For this purpose he gave him 2 drachms of opium, the effect of which was neutralized by an attack of quartan fever. The dose was repeated on a day during the intervals, and the patient died.

(To be continued.)

RECENT PAPERS.

Répertoire de Pharmacie. Nos. 4. 5.

P. CAZENEUVE AND O. CAILLOL: "Apparatus for Continual Displacement." (See page 108.)

LIMOUSIN: "Croton-Oil Crayons." [In order to prevent the spreading of croton oil beyond the limits intended, the author has prepared crayons by melting 1 part each of cacao butter and white wax in a small glass flask, and then adding 2 parts of croton-oil, taking care to close the orifice of the flask at once with a cork. When the mixture begins to get thick, it is poured into cylindrical moulds, where it speedily solidifies. These crayons may be made of a thickness of about 8 or 9 millimetres (⅓ inch), and may be covered with tin-foil.]

P. CARLES: "On Syrup of Chloral." [In view of the uncertainty as to the strength intended by the prescriber, there being no less than 6 different formulæ already in use, and to remove the objections which have been raised against their preparation, the author proposes a new one: Chloral hydrate, 4 gm.; boiling water, 2 gm.; sodium carbonate, in concentrated solution, q. s.; essence of peppermint, 1 drop; syrup, colorless, 94 gm.; chloroform, 1 drop. Powder the chloral, which must be hard and dry, in a mortar, add the boiling water, then drop by drop solution of sodium carbonate, until litmus-paper is no longer reddened, and then add the peppermint. Agitate quickly and add at once to the syrup. Filter, if necessary, and mix the chloroform with it by agitation.]

LE CANU: "On the Preparation of Protiodide of Mercury." [Having criticised the various methods proposed for preparing this compound, all of which, according to the author, cause the resulting product to be more or less contaminated with the biniodide, he communicates his own process, which he says is very rapid and gives better results than any other: Take 5 gm. of mercury, add to it 20 drops of alcohol, and triturate until the mercury is entirely extinguished, replacing the alcohol which is lost by evaporation. Then add 3 gm. of iodine in small portions, taking care to triturate the whole as rapidly as possible. In about 10 minutes an exceedingly pure protiodide is obtained. The mercury, being in extremely fine division, and very slightly in excess, prevents the formation of any biniodide.]

P. J. HAAXMAN: "On the so-called Citrate and Valerianate of Caffein." [Confirming the results of previous investigators as to the non-existence of these salts.]

Pharmaceutische Zeitung. 5–8.

TH. HUSEMANN: "The Value of Mushrooms as Food." (See page 133.)

Schweiz. Wochenschrift f. Pharmacie. 1–4.

FR. ANTHON: "Estimation of Sodium Sulphate in Epsom Salt." (See p. 109.)

CALLET: "Recognition of Oil of Turpentine in other essential Oils." (See p. 103.)

THÜRACH: "Preparation of pure Bismuth." (See p. 113.)

The Pharmacist.

March. C. C.: "Acetic Cantharidal Vesicant." [A liquid vesicant, being a modification of that proposed by Mr. Jas. Dean, may be made as follows: Moisten 8 troy ounces of cantharides with 5 fluid ounces of acetic ether, and pack it tightly in a cylindrical percolator; then cover with a paper disc. and pour on 4 fluid ounces of the same menstruum. When the liquid begins to drop from the percolator, close the lower orifice with a cork, and having closely covered the percolator, let it stand 24 hours; then remove the cork, add more menstruum, and collect 16 fluid ounces. If necessary, filter, and bottle in ounce bottles. Directions: Paint the part to be blistered with the vesicant, using a small brush or bit of linen. Several coats may be necessary, unless the epidermis be very tender. The action is hastened by covering the part with oiled silk or rubber cloth. The blister will rise in from 15 minutes to one hour.]

Journal of the Chemical Society.

March. G. STILLINGFLEET JOHNSON: "On Potassium Tri-iodide." [The existence of such a compound having been doubted by some, but suspected by others, the author has attempted its preparation with success. Iodine was dissolved to saturation in an aqueous or alcoholic saturated solution of potassium iodide, and the liquid was evaporated slowly over sulphuric acid. The crystals first deposited were dark-colored cubes, which proved to be potassium iodide colored by a little free iodine; but, after some days, lustrous dark blue prismatic crystals, sometimes two inches long, were deposited, which had the composition required by the formula KI_3.]

A. H. CHURCH: "Researches on Colein." [The author has separated and analyzed the splending coloring matter residing in numerous varieties of *Coleus Verschaffeltii*, nat. fam. Labiatæ. The pure substance is a brittle resin, of a reddish purple when in powder, with a verge to crimson, owing to the general presence of a trace of acid. The alcoholic solution of colein soon loses its color, but if the alcohol be removed in a current of hydrogen the color reappears. Acids preserve or restore the intense red color. The formula of colein is $C_{10}H_{10}O_3$.]

Pharmaceutische Zeitung. Nos. 19–30.

DR. SCHACHT: "On the Percentage of Water contained in Quinia Sulphate." [Referring to the investigations of Cownley—see NEW REM., v., 303—who ascertained that the freshly-prepared, uneffloresced sulphate of quinia contains 7½ molecules of water, that is, 15.32 per cent., and that this water may all be driven off at 100° C. Dr. Schacht has examined a number of specimens of commercial sulphate of quinia (Zimmer's and Koch's) and has found the following percentages of water: 12.17; 12.26; 14.44; 14.73; 8.64; 11.00; 11.23; 11.40; 11.52.]

JUL. JOBST AND O. HESSE: "The Constituents of Coto-Bark." [The ethereal tincture, prepared from the new variety of coto-bark, which has lately been imported into Germany, leaves on evaporation a brown resinous residue, which becomes gradually crystalline, and from which, by fractional crystallization from boiling alcohol, the following bodies may be separated: Paracotoin $C_{19}H_{12}O_6$*; Oxyleucotin (abbreviated for oxy-leuco cotoin) C_{31}

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[11] Gabriel Fallopia, born 1523, at Modena, died 1562. Celebrated anatomist, author of many anatomical treatises, and of a pharmaceutical work entitled *De compositione medicamentorum.*

* The recent importations of coto-bark have shown that various parcels of this drug differ in composition. That which was first imported contained the proximate principles, Cotoin, $C_{22}H_{18}O_6$, on which see NEW REM., v., 360, and Cotonetin $C_{22}H_{18}O_5$. Later specimens were found to contain the bodies mentioned above.

$H_{20}O_7$; Leucotin (for leuco-cotoin) $C_{21}H_{20}O_6$; Hydrocotoin $C_{22}H_{20}O_6$.]

E. Merck: "On Foreign Admixtures among Officinal Roots. (See p. 139).

The Practitioner.

March. Oscar Liebreich: "The Uses of Pepsin in Medicine, and its Preparation." [See p. 111.]

Sidney Ringer and J. S. Bury: "A Case of Acute Mania Treated with Large Doses of Hyoscyamia, Daturine, Atropia, and 'Ethyl-Atropia'" [The writers believe, from the results of treatment in this case, that in cases of delirium atropia and daturine are as good, or nearly as good, as the far more expensive alkaloid, hyoscyamia.]

Arthur Leared: "Tape-Worm Expelled by Turpentine after the Failing of Several other Remedies." [Three drachms of turpentine, with hyoscyamus.]

Robert Bridges: "Two Cases of Violent Chorea, Illustrating the Administration of Chloral Hydrate in Large Doses." [The principle of treatment was to administer sufficient chloral to insure ten hours' sleep in twenty-four. To accomplish this ʒss. of chloral was first given, and when the patient awakened a somewhat smaller dose, and so on until the requisite amount of sleep had been accomplished. Both cases recovered rapidly.]

The Lancet (American Edition).

February. E. Markham Skerritt: "Croton Chloral in Neuralgia." [Publishes the results following the use of this remedy in twelve hospital patients whose affections he divides into three classes, viz.: A. Pain or other abnormal sensation about the face, head, and neck, including—(*a*). Ordinary headache affecting the anterior part of the head, or the occiput and upper part of the back of the neck. (*b*). Megrim, migraine, or so-called bilious sick-headache (*c*). Facial neuralgia and toothache. (*d*). Headache associated with cerebral disease. (*e*). Sensations such as giddiness, without actual pain. B. Pain in other regions, comprising (*a*). Pain other than visceral in the limbs and trunk. (*b*). The pain of dysmenorrhœa. (*c*). Pain connected with digestion. C. Hysterical convulsions. Eighteen cases are reported in the portion of the paper given thus far, in which the pain was confined to the head, nearly all of whom were cured and the balance markedly relieved.]

A. B. R. Myers: "Salicin in Acute Rheumatism." [Questions whether the large doses recommended by Dr. Maclagan in the *Lancet* for January are not larger than necessary (15 to 30 grains).]

John Curnow: "The Treatment of Acute Rheumatism by Salicin." [Reports four cases.]

Thomas W. Keates: "On a Mode of Generating Sulphurous Acid for Use as a Disinfectant," etc. [See N. Rem., vi., p. 46.]

Medical Press and Circular.

April 11–18. T. Lauder Brunton: "On Pharmacology and its Relations to Therapeutics." [Considers the subject under the following heads: 1. The reasons why therapeutics has made such slow progress in the past, as shown by the history of medicine. 2. The methods by which it is at present advancing. 3. Some of the most important results obtained by these methods. 4. The prospects of therapeutics in the future.]

Editorial: "Deaths from Chloroform." [Comments upon two deaths which recently occurred in University College Hospital, in cases of chloroform narcosis, and protests against the careless way in which the agent is sometimes employed.]

Evan M. Broddy: "Ergot in the Treatment of Rheumatic Fever." [His experience in India and England leads him to believe that the influence of ergot over unstriated muscular fibre causes rapid diminution of inflammatory symptoms, and lessens the tendency to cardiac troubles.]

W. Handsel Griffiths: "On Acidum Salicylicum, Salicinum, etc." [Most of the facts reported have already appeared in our pages.]

Editorial: "Alcoholic Medical Prescriptions." [An argument against the extreme grounds taken by advocates of Total Abstinence.]

British Medical Journal.

March 24–31. T. Lauder Brunton: "Pharmacology and its Relation to Therapeutics." [Gives the physiological action of *Cusca bark*, used as an ordeal poison on the west coast of Africa.

March 31. Geo. Brown: "Treatment of Ringworm by Perchloride of Iron." [Says that he has treated five cases with local applications, with very excellent results.]

Edw. T. Tibbits. "Alcohol in Medicine." [Arguments to prove that alcohol acts in the economy as a fat-food.]

April 7. T. Lauder Brunton. "Pharmacology and its Relation to Therapeutics." [Treats of the mode of action of agents that affect the digestive functions and nutritive changes.]

S. M. Bradley: "The Administration of Phosphorus." [Is in the practice of sending his prescriptions for phosphorus to a homœopathic pharmacist, ordering "one ounce of mother tincture (ethereal), one per cent. in strength." Two to four and up to eight drops to be taken three times a day in water. He also relates a singular effect from taking this preparation, occurring in a lady, aged 30, suffering from intercostal neuralgia. Three doses daily of three drops each were taken, and after each dose the patient became hysterically delirious, composing herself finally as if intoxicated. These symptoms lasted two or three hours.]

A. A. Gore: "The Cold Bath in Typhus Abdominalis."

April 14. Clement Daruty: "Failure of Salicin and Success of Cold Packing in Rheumatic Fever."

L. H. Ormsby: "The Advantages of Ether as an Anæsthetic; with a Description of a New Inhaler." [Gives the following statistics concerning the comparative safety of various anæsthetics:

	Deaths.		Inhalations.				
Ether..........................	4	to	92,815	or	1	in	23,204
Chloroform....................	53	"	152,260	"	1	"	2,873
Mixture of chloroform and ether	2	"	11,176	"	1	"	5,558
Bichloride of methylene	2	"	10,000	"	1	"	5,000

Nitrous oxide, not given.]

Chemist and Druggist.

April 14. M. Gilbert: "Historical Sketch of Poisons" (*continued*).

W. G. Piper: "Names of British Medicinal Plants."

W. B. A. Scott: "Notes on Inoculation."

J. Barker Smith: "Approximative Quantitative Tests." [Fourth paper: on Essences.]

Anonymous: "Coloration of Iodide of Potassium." [States that the degree of alkalinity of any individual sample of the salt can be determined with greater nicety by the relative rapidity with which it imparts the stain of iodine to a piece of plain white paper than by any other known method. According as the iodide which has produced the spot is more or less alkaline, so will the iodine stain be a longer or shorter time in being developed. The neutral salt at once produces the stain, the salt slightly alkaline after some exposure of the spot, the salt decidedly alkaline after still longer exposure, and so on. This test has a direct bearing upon the process for detecting the presence of ozone in which the iodide is employed.]

Wm. Gilmour: "A Few Notes on Vinegars, their Impurities and Adulterations." [Two distinct processes exist for the manufacture of vinegar, viz.: by acetous fermentation of malt and unmalted grain, and by the destructive distillation of wood and subsequent purification. In the latter case the non-terebinthinous woods are employed and the process resembles the manufacture of coal-gas. The crude acetic (or pyroligneous) acid which passes over is a black, oily-looking liquid, containing tar and other hydrocarbon compounds, and it is generally purified by converting it into an acetate with lime or soda, and destroying the tar by a heat not sufficient to decompose the salt. Recrystallization serves to purify the acetate from which the acid is ultimately liberated by the use of sulphuric acid. The acid is once more distilled and the care taken determines the ultimate freedom from impurities. A variety of tests are subjoined.]

L'Union Pharmaceutique.

January. LESSERTEUR: "Hoang-Nan, a Remedy against Rabies, Leprosy, and the Bite of Venomous Animals." [Containing the assertions of the missionary abbé Lesserteur, which are at present being tested at Paris, as to the almost unfailing efficacy of this Chinese remedy in the above-mentioned cases. The "hoang-nan" is a small tree, growing upon the mountain chains of the provinces Nghe-an and Thanh-hoa, of Tonquin. Its bark is covered with a reddish powder, which is the active portion. This is mixed with alum and native disulphide of arsenic (realgar), and moistened with vinegar. Further information is promised.]

P. CAZENEUVE AND O. CAILLOL: "The Extraction of Alkaloids and other Crystalline Principles." [In our last number we gave a description and illustration of an apparatus designed by the authors, for the purpose of exhausting any substance by means of a volatile menstruum, without loss or waste. Its practical application is shown by the author in the results obtained with various substances. *Pepper* was examined for its percentage of *piperin*, and pure piperin prepared, by treating powdered pepper with boiling milk of lime for 15 minutes, evaporating and drying the mixture in the water-bath, then placing it into the elongated displacer (*B*, in fig. on pg. 108) and exhausting with commercial ether. The authors in this manner obtained the following percentages:

Sumatra	pepper	yielded	8.10	per cent.	of piperine.
Singapore	" black...	"	7.15	"	"
"	" white...	"	9.15	"	"
Penang	"...........	"	5.24	"	"

White pepper is prepared from black, by removing the dark pericarp, which contains a good deal of essential oil, but no piperine; hence, it gives a larger yield.]

CH. RICHET: "Researches on the Gastric Juice in a Living Subject."

P. GUYOT: "On the Value of Picric Acid as a Reagent for Prussic Acid." [On heating together a picrate and an alkaline cyanide, a splendid red color is produced, which is supposed to be due to the formation of a so-called iso-purpurate (Hlasiwetz) or artificial murexide. A standard solution of picric acid, containing 1 gm. in 100 c.c., is prepared, of which 5 c.c. are used at a time. This is neutralized with ammonia, and heated in a test-tube. It is then tested against a solution of 1 gm. of potassium cyanide in 250 c.c. of water. It will be found that 10 c.c. of the latter, or 0.04 gm. of KCy, are necessary to produce the red color on heating. In the cold there is no reaction.]

M. LÉARD: "On a Minim-Filter." (See p. 137.)

L. PATROUILLARD: "On the Preparation of Crystallized Magnesium Acetate." [On adding to 600 gm. of glacial acetic acid, magnesium carbonate, no action occurs; but, after having added about 150 c.c. of water, carbonic acid gas is given off, and solution takes place. This is filtered and placed under a bell-glass with sulphuric acid, when handsome, transparent crystals will form.]

La Ruche Pharmaceutique. Nos 1-2.

P. PETIT: "Preparation of Syrup of Bitter Orange." [Recommending this formula: Macerate 400 grammes of bitter orange peel, in thin slices, in a mixture of 200 gm. of alcohol (85 per cent.) and 2,000 gm. of distilled water, at the ordinary temperature, in a closed vessel for 48 hours; strain without expression and filter. Then pour upon the well-drained peel 100 gm. of boiling distilled water, let infuse for 12 hours, strain and express lightly, and filter. Unite the two liquids and add 6 kilos of white sugar, which is dissolved by a gentle heat in a closed vessel. Before bottling, 50 grammes of alcohol (85 per cent.) are added to the syrup.]

P. PETIT: "Falsification of Seneka Root with the Root of Vincetoxicum officinale." [The author states that it is almost impossible to find Seneka root in the market which does not contain more or less of the root, or rather rhizome, of Vincetoxicum. This fraud is, of course, to be laid at the door of European druggists.]

American Journal of Pharmacy.

April. ALPH. HERRERA: "Notes on the Joyote of Mexico." [*Thevetia Yccotli* D.C., a tree of nat. fam. Apocynaceæ, is a native of the damp and hot regions of the Mexican Cordilleras. The term yccotli is corrupted from the Aztec name of the tree *joyotli*, hawk's-bell. The milky juice was used by the ancient Mexicans for curing deafness and in skin diseases. The fruit is called at present *huesos ò codos de fraile*, "bones" or "friar's elbow," and the seeds are used as a topical application in hæmorrhoids. These seeds contain a glucoside, which splits up into glucose and a resinoid substance named *thevetosin*, which is a powerful poison, acting first as an emetic, and then as a paralyzing agent.*]

TH. G. WORMLEY: "On the Preparation and Toxic Effects of Gelsemia." [Modifying his former process as follows: A given volume of the fluid extract of Gelsemium, acidulated with acetic acid, is slowly added, with constant stirring, to about 8 volumes of water; after the separated resinous matter has completely deposited, the liquid is filtered, and the filtrate concentrated on a water-bath to something less than the volume of fluid extract employed. The gelseminic acid is then extracted from the concentrated fluid by ether, after which the liquid is treated with slight excess of carbonate of sodium, and the gelsemia extracted with ether or chloroform.]

The Pharmacist.

April. H. BIROTH: "Non-alcoholic Fluid Extracts prepared by 'Insuccation.'" [The author proposes to use a more simple method, for which he chooses the term "insuccation," for the preparation of fluid extracts from such drugs, the active principles of which are soluble in water or glycerine. His formula for Fl. Ext. of Dandelion will show his method: Take of dandelion root, cut or crushed (not powdered), 16 Troy ounces, boiling water 8 pints, glycerine 8 fl. ounces. Mix the glycerine with 4 pints of boiling water, pour upon the dandelion root, and allow to "insuccate" for 24 hours, then strain, allow to settle, and decant. Upon the residue pour 4 pints more of boiling water and proceed as before. Mix both decanted liquids, evaporate by means of a water-bath to 1 pint, and filter. When using this process, gentian, rhatany, and ergot are extracted with cold water, liquorice with cold water to which ammonia has been added; buckhorn bark, rhubarb, senna, and seneka are treated first with boiling water, and next with cold water and ammonia.—The necessity of subsequent heating, in order to concentrate the obtained liquids, makes the applicability of this method extremely doubtful in the case of ergot; nor will the peculiar odor of rhubarb be fully retained. But quassia, triticum repens, and other drugs not containing important volatile constituents, may well be treated by the above method."—ED. N. R.]

The Druggists' Circular and Chemical Gazette.

May. J. B. MOORE: "On Tincture of Colombo." [Recommends the following process: Colombo, in powder No. 20, 4 Troy ozs.; alcohol, 22 fl. ozs.; glycerine and water, each 5½ fl. ozs.; dilute alcohol, q. s. Mix the alcohol, glycerine, and water, moisten the powdered colombo with the mixture, pack in a close vessel, and set aside to macerate for 6 hours; then pack in a glass funnel prepared for percolation, and gradually pour upon it the remainder of the menstruum, and when this has passed from the surface, continue the percolation with dilute alcohol until 32 fl. ozs. of tincture are obtained.]

Schweiz. Wochenschrift f. Pharmacie. Nos. 11-13.

F. SCHNEIDER: "Mustard-Flour as a Detergent.

A. HUBER: "On the Preparation of Very Thin Pencils of Silver Nitrate. (See p. 140.)

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* That is, it is a powerful *cardiac poison*, and belongs to the class of principles mentioned in Prof. Th. Husemann's paper, "*On the Distribution of Cardiac Poisons in the Vegetable Kingdom*," published in our Jan. and Feb. Numbers.

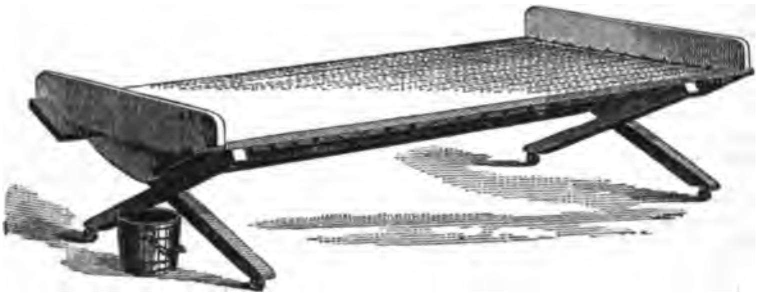
ORIGINAL COMMUNICATIONS.

ON WATER AS A THERAPEUTIC AGENT, TOGETHER WITH THE DESCRIPTION OF A CONVENIENT AND EFFECTUAL METHOD OF EMPLOYING IT IN FEVER.

By G. W. Kibbee, M.D.

The idea might strike some in a rather ludicrous light that a substance so common as water, that composes four-fifths of the weight and bulk of our bodies, and is so essential that no organism could retain life for an instant without it, should be brought up as a "new remedy." If, as is held by the most advanced medical scientists of to-day, excessive vital heat is the direct cause of the morbid phenomena of fevers, whatever the inimical thing may be that excites the exalted vital action which produces the heat, then the persistent use of water at some temperature cooler than the blood is a remedy that should not be ignored. When it is taken into account that so few of our fraternity have depended on it in time past to regulate vital heat, it does not seem inappropriate to call water a new remedy, and to treat of it as such.

For many years I have relied on water as a regulator of vital heat. In reducing the heat of fevers, I have used it in all temperatures from icy cold up to 95°, but I soon learned that the best effects were produced by pouring over the body, through a folded sheet reaching from the thighs to the armpits, water at from 95° down to 80°. Under this plan I have not only *saved* many patients in typhoid who had all the complications immediately preceding dissolution, but have brought about, in such cases, an immediate convalescence. The reason why this mild and gradual cooling plan brings more speedy results than the cold treatment, as practised in Europe, is that the heat is so quietly brought down to the normal standard, that no reaction follows, and the pouring is so continuous that no exacerbation of the heat occurs, although the vital action may be double that of health. This plan of keeping the heat at the normal standard not only succeeds perfectly in typhoid when the treatment commences with the rise of heat, but does equally well with fever of every name; and long ago I came to the unqualified conclusion that it is simply impossible for an ordinarily healthy person to die of fever, no matter what its cause, if the excess of heat be removed, as fast as it rises, by the plentiful use, over the trunk, of water, just a little below the normal heat of the blood.



The method of Brand is to immerse the patient to the neck in water at 68° F., for fifteen minutes once in three hours; varying the time of continuing the bath, the length of the intervals, and the adjunctive treatment, according to the evolution of heat, and the complications which arise from it. The experience of all physicians points to excessive vital heat as the producing cause of all the morbid phenomena attending fever. The exalted vital action being Nature's method of expelling morbific substances or causes of vital disturbance, we need no remedy for that; but what we require in a remedy is the power to remove excessive vital heat.

The remote causes of the morbid phenomena are as various as are the substances and forces that are inimical to human vitality. While there can be no question that the atmosphere is filled with vitalized invisible germs that are taken into our blood by inhalation, the experience of Brand and Gignoux, who depended *entirely* on the cooling method in fevers, proves to an absolute certainty, that when the blood is kept at its normal standard of heat, no matter how rapidly the heart beats and the lungs respire, nor how fast the vital heat is evolved by that exalted action, these germs are cast out or otherwise disposed of; being incapable of such development into living, aggressive organisms, as to do serious damage in the system, unless the heat is above the normal standard. Brand, Gignoux, and a few others have undoubtedly made water the *only* therapeutic remedy in fevers, but it is quite probable that others have adopted a mixed practice, or lacked thoroughness in the cooling treatment, and consequently have obtained less satisfactory results. There cannot be the shadow of a doubt that keeping the blood at the normal standard of heat is of first and vital importance in the treatment of disease of whatever name, acute or chronic, or that water is the most available therapeutic agent for that purpose. But water as a means of communicating heat and cold is not only of vital importance in regulating the temperature in fevers, but it is the most powerful therapeutic agent known to the profession for filling other indications. Prof. Macartney, Lecturer at Trinity College, Dublin, 1836, said: "If men knew how to use water so as to secure all the remedial results it is capable of producing, it would be worth all their other remedies put together." This was said forty years ago. A great deal has been learned since then. I learned, early in my practice, that cooling the blood to the normal standard of heat not only relieved patients from the most excruciating pain in many instances, but in all cases gave rest and sleep to those who had long suffered from distressing nervousness and wakefulness. Prof. Clark says, "A sponge bath will do more to quiet restless patients than any anodyne." This I have proved true, in effect, in many instances where I have, like Dr. Gignoux, been called to cases of typhoid that had passed into the last stage of the disease with all the severe complications. I now call to mind one case that serves well to illustrate the quieting influence of the cooling process. The patient had been down with typhoid fever for twenty-one days. His brother, attending physician, had called a council of three neighboring physicians the day before, and the conclusion was that his case was utterly hopeless. On the morning of the twenty-first day the brother came for me over twenty miles of country road, to go with him and apply the water treatment as a last resort. The man had then been unconscious for four days. There had been no action from the liver and small intestines for three days, but there had been rice-water discharges from the lower bowels during the time, and no passage from the kidneys for the previous thirty-six hours. He was in a constant waking delirium, having had nothing resembling natural sleep for seventy-two hours.

I had a fresh straw bed prepared, a folded sheet was placed around his trunk, and water at a mild and pleasant temperature was poured over the body through the sheet, and allowed to run off on the floor. In one hour's time the heat, which had been most intense, was reduced to the normal standard; the rice-water discharges ceased; he began to get refreshing sleep of twenty minutes or half an hour's duration; in twenty-eight hours, immense discharges came from his liver and small intestines; in three days more he was clothed in his right mind, and within a week from the commencement of the treatment, he was completely convalescent. This might be called strong corroboration of Prof. Clark's method of quieting restless patients. Let us take note, now, of what indications the water fulfilled in that case. In the first place it proved an anodyne, a thing apparently the most needed; next, it proved a diaphoretic, for just as soon as the heat was reduced to the normal standard, the skin assumed its normal function; third, it served as a diuretic, for the kidneys, after twelve hours of the cooling treatment, had taken up their share of the depurating processes. It served as a cholagogue, for when the overheated liver was brought to its normal temperature, the vitiated bile began to be eliminated from the blood, and cast into the primæ viæ, and found exit in twenty-eight hours in copious amounts. It was a sialagogue, for as soon as the excessive heat was removed from the system by the tepid pouring, the whole mucous membrane began to do its normal work, and a fluid was exuded that soon loosened up the sordes upon the teeth and gums, and the hard, dry, black coat on the tongue and fauces; and last, though by no means least, it served as a stomachic or appetizer. When the great heat of the blood was reduced to its normal standard, the stomach very soon began to pour in its gastric fluid, and directly Nature made a demand for food.

Many a physician has stood for weeks in the front of the battle which a few devoted sisters of charity and other self-forgetful souls have waged against the pestilence that walketh at midnight and slayeth at noonday, full of expedient and hope, until he enters his own door to find one of his loved ones writhing in the agonies of cholera. He goes to work with trembling hands, and with a fear that is tormenting, but in spite of all he can do, he sees the skin shrivelling up as in old age, and feels in vain for a pulse at the wrist. What, then, would he not give for a remedy that could restore tonicity to the nervous extremities, and start anew the peripheral circulation and heat? *He has it in cold water.* In a fearful epidemic at Nashville, Tenn., I successfully treated several cases of cholera that were cold to the trunk and pulseless at the wrist, by pouring cold water over the body, and immediately wrapping in hot wet blankets. At a later day, in 1873, Dr. W. K. Bowling did the same thing in effect by rubbing his patients with ice and wrapping them up warmly.

In a Western city, some years since, an epidemic of acute dysentery prevailed. One of my medical brethren who followed the usual plan of medication lost many cases, including three of his four children, and then fell ill of the disease himself. He is a noted man, and received the sympathy and aid of the profession from all surrounding quarters, but his case came at length to be hopeless under the treatment that had been instituted, and it was resolved, as a last resort, to use water. It is unnecessary here to give the symptoms which immediately precede dissolution in acute dysentery. When I was called into the council, it was believed that extensive ulceration had occurred. It was concluded at once to treat the cutaneous extremities of the nerves by pouring several pailfuls of very cold water over the body, using a great amount of friction by hand rubbing, followed by closely wrapping the trunk and extremities in very hot wet blankets, with a large amount of dry covering to prevent the radiation of heat. Within ten minutes he was in a sleep, which lasted three-quarters of an hour, when he was taken up and the same process repeated. He then slept an hour and a half, was taken out and put into a dry bed, and cool compresses laid over the trunk, changed every twenty minutes. Sleep! how that man *did* sleep for the next fifteen hours. He had been having painful dejections every ten minutes for four days, with *no* biliary action during that time, and of course no refreshing sleep. The dysenteric dejections instantly ceased, and within seventeen hours from the beginning of the treatment a profuse discharge came from the liver and small intestines, and the convalescence was so rapid that within three weeks he was in his usual health.

The cases of congestive chills that I have successfully treated on the same principle are too numerous to particularize. Cold water, then, or ice, is the best known tonic. Are these cumulative facts indicating the great therapeutic value of water singular coincidences? Or is there a grand principle of *cure* underlying that has been too much neglected by the profession? But all these services of water as a therapeutic agent, let us bear in mind, come through its power of *regulating vital heat.* If any other substance could be made to do the same thing, it might, perhaps, be substituted upon occasion. But *is* there any such substance? Prof. Sée, of Paris, thinks quinine, next to alcohol, the best and safest antipyretic. But on what principle does quinine or alcohol reduce the heat of fever? Evidently by lessening the action of the vital force. When anything inimical is taken into the blood through the lungs, or by ingestion, what is the first symptom that points to the fact? Exalted action of the heart and lungs. *Why* does the heart set up a more rapid beating than normal, and *why* do the lungs increase their action in conformity? Evidently for the purpose of resisting and expelling whatever it is that offends. This, then, is Nature's method of setting things to rights, and there is ample proof that the rapid circulation and respiration attending a case of scarlet fever, or of any other fever, are not, of themselves, any serious detriment to vitality. It is the excess of *heat* that does the mischief, makes the abnormal changes in *all* fevers. Why, then, in the name of reason, should we *prevent* the heat by the use of quinine or alcohol, and thus interfere with Nature's method of removing whatever is offensive, when, with water, we can remove its excess, and thus leave all the organs free to perform their normal functions, though the heart may beat and the lungs respire with double their normal action in resistance to whatever is inimical. For many years I used this tepid pouring treatment at very great disadvantage, but about eighteen months ago, during the prevalence of a fearful epidemic of typhoid fever, I invented a bathing cot, so constructed that the water used passes over the patient's body, and down through a strong network, upon which he lies, to a rubber bottom below, which conducts it to a vessel at the foot. On this cot, water at any required temperature can be used for any desired length of time, as it proves a very comfortable bed for the patient. In cases where the vital heat is below the normal standard, as in cholera, etc., the patient is placed on the cot with the clothing removed, and cold water freely poured over the whole body, while the surface is briskly rubbed by the hands of attendants. This is followed by wrapping in hot wet blankets, and pouring water as hot as it can be borne. In the treatment of cases of excessive heat, the water should be mild in temperature, but persistently applied. I therefore recommend it to the profession as obviating all the objections to the *cold* treatment, and much more efficient than the cold water bath in keeping the temperature equalized.

No. 737 BROADWAY, NEW YORK CITY.

ON THE CASSIA TRADE OF CHINA.

BY DR. F. HIRTH DU FRENES, OF AMOY, CHINA.

THE value of the annual exports from the port of Canton, in foreign bottoms, may be estimated at about 25 millions of dollars. The lion's share of this amount falls upon *silk*, both raw and manufactured, being about 14 millions of dollars, or considerably over one-half of the total value of exports. The next important article is *tea*, of which about 3 millions of dollars' worth is annually exported. And the next is *Cassia lignea*, with cassia-flowers and cassia-twigs, of an average value of 1,300,000 dollars. The largest portion of this is, however, not shipped at Canton itself, but at Whampoa, some 12 miles below Canton, on the Pearl River, where sailing vessels have their usual anchoring station. Vessels taking a cargo of cassia usually do not load anything else, and tea-ships avoid under all possible circumstances to carry it, as the cassia flavor is apt to be communicated to the tea. The freights are consigned either to New York or to Hamburg, or else to some station in the English Channel, usually Falmouth, whence the course of the vessel is directed either to Antwerp or Bremen or Hamburg, according to the conditions of the market at these ports. Of late years large quantities of cassia have also been shipped to London, not for home consumption, but merely in transit, under bond, for re-exportation to the Continent. A comparison of the maritime statistics of China and of Hamburg shows, that over two-thirds of the entire cassia export finally reaches the Hamburg market, even by roundabout roads, this city being the chief depot for Central Europe. About one-fourth of the exported cassia reaches the United States.

Cassia is produced chiefly in two districts, namely in Lo-ting chou, on the borders of Kuang-hsi and Pai-shui-tai, and in the neighborhood of the village Tai-wu at the southern banks of the Western River, above Wu-chou-fu in Kuang-hsi. Lo-ting chou is the central mart of the so-called Tai-shan district, which extends along the right bank of the Western River from its mouth, and is about 150 miles distant from Canton, while the distance from Canton to Tai-wu is about 180 miles. This latter city is probably the most distant place from which any important article of foreign trade reaches the Canton market, and yet this district is merely a small fragment of the large territory of which Canton would be the natural outlet. This statement is proved by the fact that from the whole south-western China, namely the provinces Kuei-chou, Yün-nan and the western part of Kuang-hsi, only insignificant quantities of domestic products—unless we except comparatively small lots of musk, galls, rhubarb, and a few other drugs—reach the treaty ports.

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When we learned, a few weeks ago, that a new edition of the United States Dispensatory was about to be issued, we began to congratulate ourselves upon the final realization of a long cherished wish—which was, no doubt, also entertained by our readers—of again being put in possession of a standard, indispensable work, which would be a faithful commentary upon our present Pharmacopœia, and a reliable guide in all matters pertaining to materia medica and pharmacy. The work has left the press and now lies before us; let us see how our expectations have been realized.

The preface to the present edition states that "no care or labor has been spared to render the present edition equal in *accuracy* and in *completeness* to its predecessors. Great pains have been taken to omit superfluous matter and to condense the text; but the additions have been so numerous that the work has been augmented by about seventy pages. This increase is of course to be deprecated, but without it one of the chief values of the book would have been impaired, and it has seemed better to have a few pages more of print than not to have a *complete representation of the pharmacological science of the day.*" [The latter italics are our own.—Ed. N. R.]

To this statement, however, we must take emphatic exception. It *does not represent* the pharmacological science of the day, nor of last year, nor yet of the year before, as may be seen even on superficial inspection. While in former editions the average distance between the dates of references quoted in the text and the date of publication was about *one* year, and readers could be tolerably certain that the information afforded by the text contained everything of importance known one year previous to the date of publication, we are surprised to find an entirely different aspect of things in this present edition. An inspection will at once reveal the fact that the two main portions of the work, *Materia Medica* and *Preparations*, have received very unequal treatment. The second portion, naturally, had to be completely revised, owing to the changes made in the last United States Pharmacopœia, and therefore necessarily differs much from previous editions; but the first part—which is at least of equal and to many of more importance than the second—is altogether unsatisfactory. There has probably been no period in this century during which so many important additions have been made to our knowledge of the history, composition, and uses of medicinal agents as the seven years elapsed since the last edition of this work, and no author, claiming accuracy and completeness for his work, could afford to publish in 1877 statements betraying a complete ignorance of the existence of such an epochal work as *Flückiger and Hanbury's Pharmacographia*, published in 1874,* every page of which is full of valuable and new matter. It has been a source of pride for the American pharmacist to know that the United States Dispensatory has been regarded as an authority of the highest rank all over the world, and that it did not have its equal; and we ourselves confess with pleasure that it has been for us an almost inexhaustible fountain of information. But this, to our sorrow, it has ceased to be, and we must turn to other sources to supplement, or to correct, the statements which we find in it. It would be impossible to point out all the defects and lacunæ in the part under discussion, the dates of references being too glaring a tell-tale not to prove in themselves the justness of our strictures! The second part of the work, although considerable labor has been bestowed upon it, betrays another equally undesirable character, namely, hurry. No proper account has been taken of the many comments and suggestions made in pharmaceutical literature on certain processes of the Pharmacopœia; and the explanation of chemical reactions, both in this part and in the first, is still given in the old, now antiquated, nomenclature, which we had hoped to have gotten rid of. The pasting process has likewise not helped to improve matters much, or we would not meet with such comments as are given, for instance, in the case of Vinum Ergotæ (which is made by mixing the *fluid extract* with sherry wine): "It is, therefore, best to employ the ergot in this process well powdered instead of merely bruised, as was formerly officinally directed."

While expressing our disapproval of the manner in which this revision has been performed, we must not forget under what disadvantages the editor has had to labor. His age forbids him from taking a very active share in the work, and he had to entrust the bulk of the task to others. But it is evident that the task of revision had not been determined on, nor was begun, until within a recent period, when stress was laid on the fact that "our Pharmacopœia, which needed a commentary, was without one." Besides, a mistake was made in not calling in more assistance—which might easily have been secured in Philadelphia itself—in order to turn out a perfect work. We trust that a future edition of the work will be free from these defects, so that we may again be able to turn to its pages with confidence.

A Practical Treatise on Diseases of the Skin, by Louis A Duhring, M.D., Professor of Diseases of the Skin in the Hospital of the University of Pennsylvania, etc. Philadelphia: J. B. Lippincott & Co. 1877. 8vo, pp. 618.

Atlas of Skin Diseases, by Louis A. Duhring, M.D., etc. Part II., *Acne Rosacea*, *Icthyosis* (simplex), Tinea versicolor, Sycosis non-parasitica. Philadelphia: J. B. Lippincott & Co. 1877.

It is not many years since we were almost entirely dependent upon foreign treatises for our knowledge of skin affections. These were hardly suited to our needs, since, as is well known, the influences of climate and modes of life are largely concerned in the production of this class of diseases, or greatly modify, in many instances, their appearances. It can hardly be wondered at that with such guides the study of these affections, as here presented, was beset with many difficulties, and that our knowledge of this important branch of medicine was comparatively limited. Of late years, however, the progress of dermatology has made rapid strides among us, and, following the republication of English works, we have had a number, of native origin, of increasing excellence, until, in these efforts of Dr. Duhring, we possess a treatise, and an atlas of colored plates, which are in advance of anything yet offered by an American author, and worthy of comparison with works of the same scope which have been issued abroad.

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* The first copies of this work reached the United States during January or February, 1875.

The classification, followed with some slight modifications, is that of Hebra, and an effort has been made to include all the important facts in connection with each disease treated of, which are essential to a work to be used by the general practitioner. Discussion of theories or unsettled points has been avoided, and a bibliographic list enables the reader to refer to more extended or special writings. Part I., embracing anatomy, symptomatology, etiology, etc., occupies about one hundred pages, and is sufficiently illustrated with cuts made from original drawings. Part II., devoted to special diseases, embraces Disorders of Secretion, Hyperæmias, Exudations, Hæmorrhages, Hypertrophies, Atrophies, New Growths, Neuroses, and Parasites. Whatever help the specialist or student in skin affections may derive from systems of classification, it is of more importance for the practitioner that the natural history and directions for the management of each disorder should be clear and comprehensive. We think little fault can be found with Dr. Duhring's work in this respect. In the matter of treatment and prognosis his chapters are quite full, the various prescriptions and formulæ being scattered through the text rather than massed at the end of the work, as is sometimes customary. A peculiarity of the work which strikes us favorably is the manner in which each chapter is headed, for example:

ECZEMA.

Syn. Tetter; *Germ.*, Eczem; *Fr.*, Eczéma.

"Eczema is an inflammatory, acute or chronic, non-contagious disease of the skin, characterized at its commencement by the appearance either of erythema, papules, vesicles or pustules, or a combination of these lesions, accompanied by infiltration and itching, terminating either in discharge with the formation of crusts or in the production of scales."

THE Atlas of Skin Diseases, by the same author, is a very desirable supplement to such a volume as the above. We have already noticed the first part, which contained plates and descriptions of eczema (erythematosum), psoriasis, lupus erythematosus, and syphiloderma (pustulosum).

Nothing superior to these plates in the way of a pathological atlas has ever been issued in this country, and those who require a series of colored plates of skin affections need expect nothing better. The edition is said to be limited, and the publishers announce that the lithographic stones will be erased after the series is once printed.

Each plate is accompanied with a description of the case, of which the portrait is a representation, followed by a brief account of the disease as generally manifested, and directions for its management. Each part sells for $2.50.

YEAR-BOOK OF PHARMACY: comprising Abstracts of Papers relating to Pharmacy, Materia Medica, and Chemistry contributed to British and Foreign Journals from July 1, 1875, to June 30, 1876. With the Transactions of the British Pharmaceutical Conference at the Thirteenth Annual Meeting held in Glasgow, September, 1876. London: J. & A. Churchill. 1877. 8vo, pp. 640.

OWING to the illness of the Editor the volume has been somewhat delayed, but it has been so carefully compiled that it has lost little of freshness and nothing of its value. The introductory chapter of sixteen pages recites the progress made in the several branches within the year, and is followed by the Year-book proper, embracing 360 pages, of which Pharmaceutical Chemistry comprises 135 pages, Materia Medica, 120 pages; Pharmacy, 83 pages, and Notes and Formulæ the balance.

The address of the President, Prof. Redwood, is full of suggestions that would prove of value to those who seek for fields in which to prosecute original research. The papers read at the meeting were of a very high order, nearly, if not quite all, being largely composed of original researches. We have already published abstracts of most of them and will do so with the others at an early date. Altogether the published transactions of the Association evince a painstaking earnestness on the part of its members which win our unqualified respect and admiration, and renders its publications among the most prized that come to our table.

A COURSE OF PRACTICAL HISTOLOGY: Being an Introduction to the use of the Microscope.. By EDWARD ALBERT SCHÄFER, Assistant Professor of Physiology in University College, London. With Illustrations on wood. Philadelphia: Henry C. Lea. 1877. 12mo, pp. 304.

WE had been led to suppose, from the number and character of the text-books and manuals on histology, that there was no occasion for any more works on the subject, but we were convinced of our ignorance on looking over this comprehensive little work. No attempt is made to teach the minute anatomy of tissues. It simply aims at telling the student how to handle his instruments, and to prepare his specimens so that he *can* study their minute anatomy. From first to last the book shows that it has been made by one who has been accustomed to teaching the subject about which he writes, and has practical knowledge of the obstacles and difficulties to be met with. In the introductory chapters the microscope is described as a tool, without the least attempt to enter into the explanation of its optical properties. The directions are of the most minute character without in the least becoming prolix. There are forty elegantly drawn and engraved illustrations, of which all, with one exception, are original with the book. We heartily recommend the volume to those who wish a concise and reliable hand-book.

GENERAL INDEX TO THE NEW YORK MEDICAL JOURNAL. From April, 1865, to June, 1876. (Twenty-three Volumes.) By JAMES B. HUNTER, M.D. New York: D. Appleton & Company. 1877. 8vo, pp. 144.

THE medical profession are greatly indebted to the editor and publishers of this admirable summary of the well-known journal, and every one who has had occasion to refer to the literature of any special subject will recognize its value. If indexes of this sort were more common, scientific and literary men could save themselves the trouble of binding and preserving—oftentimes with great trouble and expense—files of journals; but could deposit them, instead, in some neighboring library, where they would not only be preserved, but would be accessible to others. A little over a year since *The Practitioner*, of London, published a general index to its entire series (12 years), and among secular journals the *Atlantic Monthly* has done the same thing.

It would have been a matter of interest to the friends of the journal if Dr. Hunter had given them in a prefatory chapter a brief history of its origin and progress from its founding by Van Buren, Clymer, Echeverria, and a few others, through the period when Hammond, then Hammond and Dunster, and later, Dunster alone, held the editorial chair, to be followed, by Lusk and Hunter, and latterly Hunter alone.

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New Guano Deposits.—An English commission sent to examine some recently-discovered guano deposits to the south of Tarapaca, in Peru, have confirmed the reports of previous explorers as to the immense quantity of the deposit, amounting to at least 10,000,000 tons, and being besides richer in ammoniacal salts and in phosphates than that of the Chincha Islands.

Adulterated Chocolate has been analyzed by Dr. Vohl, in Cologne, and Mr. Heinz, in Duisberg, who found among seventeen samples, nine which contained no cacao at all. The constituents were: ground cacao-shells, tallow, roasted flour, and inferior sugar; in two cases, besides, 5 and 10% barytes, and various vegetable colors.

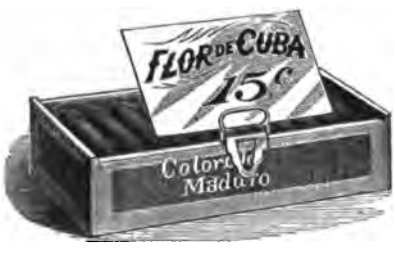
TRADE NOTES.

Little Harry's Odorless Safety Night-Lamp.

If there is a druggist, or dealer in illuminating oils, who has not yet got this article in stock, he is decidedly behind the times. Since "Blue Glass" this is the novelty of the season—and only twenty-five cents apiece, or $3.00 per dozen. It weighs two ounces; holds oil enough to last 12 hours; burns kerosene oil with No. 16 cable-cord for a wick; has a chimney and shade in one piece; and costs next to nothing—less than a penny per night to use it. We haven't seen it tried for such a purpose, but we should think that for those apothecaries who keep cigars in stock it would always be a handy lighter; or to keep on the dispensing counter to save matches in lighting gas and alcohol lamps, melting sealing-wax, etc, it might prove serviceable. But its chief use is to *sell*. Write to L. H. Olmstead, 81 Nassau st., New York.

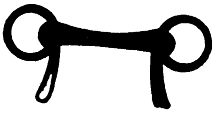
Snow's Peerless Card-Holder.

Here is something for the druggist's benefit. A card-holder of this sort can be attached at any angle to almost any object, and will aid considerably in the displaying of goods. Small articles, like sachets and court-plasters, can be held by them instead of inserting cards. We have no idea of what they cost, but presume that the Steele and Johnson Manufacturing Co., of 78 Reade & 19 Church Sts., New York, will be happy to answer any queries of that sort.



The Flexible Rubber Bit.

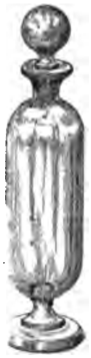
There are few gentlemen who have so much personal experience in the management of horses as physicians, and anything which will contribute either to their comfort or to the efficiency of their horses needs no apology for its introduction through the pages of a professional journal. The manufacturers of the Flexible Rubber Bit recently sent us a sample of their wares without knowing that we have had one in use for more than a year. We are quite prepared to say that we prefer it to any bit that we have ever used and can endorse their statement without reservation, that it is an easy bit for a tender mouth, and surpassed by nothing in its control of a horse that has a tendency to draw his load by the reins. No other bit ought to be put into a horse's mouth in cold weather. A chain is embedded in the rubber and securely fastened to the rings, and as every bit has been subjected to a test of 450 lbs., there need be no fear of its giving way under any strain to which it is likely to be subjected. Crane & Co., of 72–76 Mechanic st., Newark, N. J., are the manufacturers.



Sulphate of Cinchonidia.

For some time past the manufacturing pharmacists of this country have striven to direct the attention of the medical profession to the desirability of becoming more familiar with the properties of the various alkaloids besides quinia which exist in the cinchona barks. Dr. Squibb has repeatedly referred to it, and quite recently Messrs. Powers & Weightman have renewed their efforts in this direction by circulating a pamphlet composed of the published experiences of a large number of well-known physicians.

There is little doubt that much of the use of quinia, to the exclusion of the other alkaloids, and especially cinchonidia, is the result of fashion or habit, and it may be that the present high price of the fashionable article may be the means of stimulating investigation in a way that would not be likely while quinia maintained its old price. We understand that this firm will, for the present at least, send a package containing six ounces of sulphate of cinchonidia to any address, postage paid, on the receipt of five dollars (about the cost of an ounce of quinia at present prices), so that no physician, however remote from drug-stores, need delay a trial of the remedy.



Warner's New Shop Bottle.

William R. Warner & Co., wholesale druggists, of 1,228 Market street, Philadelphia, offer now a very pretty form of dispensing bottle, as represented in the adjoining cut. They make them in both tinctures and salt-mouths, ranging in height from 9¼ to 16 inches of the former, and 8¾ to 15 inches of the latter; and in price from $2.65 to $8.75 per dozen.

Another variety is shown among the advertisements of this number.

NOTES, QUERIES AND ANSWERS.

[*Under this heading we shall, to the best of our ability, endeavor to answer such questions addressed to us as come within the scope of this journal, providing they are accompanied by the name and address of the writer. Answers to queries received after the 5th of the month will lie over until the next issue.*]

◆

Bromhydric Acid (J. W. J., Ann Arbor, Mich.).—There are two kinds of this acid in the market; one has a spec. grav. of 1.040, which costs about 60 cents a pound (wholesale); the other has a spec. grav. of 1.350, and costs about $3.50. Unless the latter is expressly specified, the former is usually sold. We agree with you, when you say that the spec. grav. should form an integral and constant part of the labels of *all* acids sold in the market, and the manufacturer who should first introduce this improvement—provided the figures are accurate for a certain given temperature—would deserve the thanks of the profession.

Japan Dryer (Same).—We do not know what formula you have followed, but the one which we have seen recommended, although we cannot speak from our own experience, is this:

Linseed oil, boiled	1 gallon.
Shellac	12 ounces.
Litharge	8 "
Burnt umber	8 "
Red lead	8 "
Spirits of turpentine	1 gallon.

Mix all the ingredients except the turpentine; boil them for about 4 hours, or until they are dissolved, which will be seen from the homogeneous appearance of the mixture; then remove from the fire, allow to cool somewhat, and add the oil of turpentine.

Black Ink (F. G. G., Pa.).—Those inks are the best which penetrate into the fibre of the paper, and by gradual oxidation develop their black color. Hence, an ink which writes jet black at once is not always very durable. A very good, easy-flowing ink of a dark green hue, which speedily turns black, may be prepared as follows:

Nutgalls	100 parts.
Green sulphate of iron	60 "
Gum arabic	10 "
Vinegar	1000 "
Indigo-carmine solution	200 " or q.s.

Powder the nutgalls, pour on the vinegar, and let stand a few days; then draw off the solution, boil a quantity of it (about 200 parts) with the powdered sulphate of iron and gum arabic, and add the hot solution to the remainder. Finally, add the indigo-carmine solution in measured portions until, after well stirring, a sample removed shows the required tint.

Cologne (C. V. Brooklyn, N. Y.).—An exceedingly fine cologne may be made after this formula:

Oil of bergamot	108 grains.
" lemon	262 "
" neroli (petals)	154 "
" neroli (bigarade)	49 "
" rosemary	108 "

Deodorized alcohol (92 per cent.), 6½ pints.

A less expensive product may be obtained by diluting the above with orange-flower, or rose-water, until it begins to be faintly opalescent, and then to filter, after shaking the liquid with a very small quantity of magnesium carbonate.

Lavender Water (Same).—This is a good formula:

Oil of bergamot	231 grains
" lemon	116 "
" geranium	39 "
" lavender	1200 "
Essence of musk (120 grs. to 1 pint)	4 "
Balsam of Peru	462 "
Storax	960 "
Zibeth	8 "

Deodorized alcohol (92 per cent.), 11 pints.

Dissolve the oils in the alcohol; then digest the remaining ingredients with the solution for 4 weeks, and decant.

In the formulæ for preparing perfumery, on page 74 of our March number, the number of ounces, referred to under extracts of pomades, is understood by us to mean *troy* weight; and the ounces of fluid extracts or essences, on page 92, to mean *fluid* ounces.

Solution of Prussian Blue (J. J. S., C. D., Utah T.).—There are two varieties of Prussian blue; one of these is the so-called "soluble" blue, which is used for injecting anatomical specimens and other similar purposes, to distinguish certain vessels and tissues under the microscope. This is rather troublesome to prepare. Your inquiry, however, would seem to refer to the ordinary Prussian blue, of which you desire to know a solvent so as to prepare a stable solution. The best commercial Prussian blue, which in trade is sometimes called Paris blue, must be subjected to a previous operation before it can be rendered permanently soluble. This consists in rubbing very finely powdered blue with an equal weight of sulphuric acid, allowing to stand for about 36 hours, then pouring the mixture slowly, under stirring, into a large quantity of water, and allowing to settle. The water having been drawn off, the residue is washed with water, until a sample of the latter ceases to produce a blue reaction with potassium ferrocyanide, showing thereby the removal of all excess of ferric salts. This residue is then, still moist, rubbed with crystallized oxalic acid and a sufficient quantity of water. Experience has shown that 6 parts of Prussian blue, purified as above stated, are soluble in about 1 part of oxalic acid, while the ordinary blue of the market requires at least 3 times its weight of this acid for solution.

Sumac Cultivation (F. M. D., Martinsville, Ind.).—It is hardly possible to give directions in these columns which would cover the ground of your queries. A general knowledge of the properties of the genus Rhus may be acquired from most text-books on botany (*Gray*, *Wood*, *Darby*, *Chapman*), and information as to the best kinds for tanning purposes may be obtained from some technological work, such as *Muspratt's Chemistry*, or from the files of the *Shoe and Leather Reporter*, published at 17 Spruce Street, New York.

Wood-Vinegar and Pyroligneous Acid (R. W. P., Duluth, Minn.).—The best information on this subject will be found in *Wagner's Jahresberichte über die Fortschritte der Technologie*, in *Muspratt's Chemistry*, *Bolley's Handbuch der Technologie*, und *Assmuss*, *Die trockene Destillation des Holzes*. Your question has probably been already answered by Mr. G. E. Stechert.

Extract of Vanilla (J. T. M., Atkinson, N. H.).—A good formula for preparing this extract from the bean, given by Mr. W. Saunders, will be found on page 72 of our March number.

Vanillin is easily soluble in alcohol and water. It has been shown that vanilla beans contain on an average 2½ per cent. of vanillin,* hence the aromatic power of this substance is 40 times as great as that of the bean itself. In practice, however, it is best to employ a little more. 30 grains of vanillin dissolved in 1 quart of syrup make a very fine preparation, of which a smaller quantity will be required than when using the syrup made from the bean. Vanillin is quoted at about $1.00 per gramme.

Menstruum for Extract. Lupulinæ Fl. (W. K. N., M.D., N. Y.).—The proper menstruum for preparing this fluid extract is stronger alcohol, and it should *not* precipitate on the addition of the latter. It is best administered in Syrupus Acaciæ, and may afterwards be diluted with a little water. Of course, in this case the resin will not be in solution, but in a state of fine division suspended in the liquid.

Extractum Cinchonæ Flavæ Fluidum Compositum (Squibb's) is recommended by Dr. Squibb, to be administered in a little wine, just before meals.

Antihecticum Poteri (A. S. B., Kansas City, Mo.).—The synonymes given in Dunglison's dictionary are perfectly correct, but the preparation has been out of use for more than 100 years. Pierre de la Poterie (Petrus Poterus), born at Angiers, about 1600, A. D., lived as physician in Italy, and wrote a *Pharmacopœa spagyrica nova et inaudita*, besides other works. He recommended as a remedy against phthisis, an impure oxide of antimony, containing oxide of tin, which was hence called "Diaphoreticum Joviale," as tin was referred in alchemy to the planet Jupiter, of which Jovialis is the adjective. Antihecticum is not a correct term: it should be antihecticum. See on Poterus and this preparation: *Sprengel*, *Gesch. d. Medicin*, 4, 358, *J. F. Gmelin*, *Geschichte der Chemie*, 1, 592.

Julep and Roob (A. McM., West Point, N. Y.).—The etymology of these words is this: *Julep* is derived from the Arabic *jullāb*, which has several meanings: 1. *a purge*, in which case is it a really Arabic word, as it is derived from the root *jalaba*, to draw; 2. a mixture of water and syrup, perfumed with *rose-water*, in which case it is itself derived from the Persian *gul*, *rose*, and *āb*, *water*. The mediævo- and modern Greek equivalent is ζουλαπιων. The modernized Latin term should therefore be Julābus, or Julabium, instead of Julĕpus.—*Roob*, or *Rob*, is originally from the Arabic *raboa*, to become thick or inspissated, from which the Arabic *rubb*, and Persian *rub*, thick juice, or syrup, is derived. The word is occasionally spelled *Kohab*.

Packing of Percolators (E. L., Nashville, Tenn.).—Various materials may be used for covering the bottom of large percolators. Some use flannel, others muslin of loose texture, others cotton, etc. We are in the habit of using fine tow, which makes an admirable filtering material. But we would caution you against using any cow-hair felting, such as is used for covering steam and gas pipes, or boilers, and which has likewise been recommended for use in percolators, without previously examining it for arsenic. *Some of the commercial cow-hair felting is impregnated with arsenic to prevent its destruction by moths.*

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* See New Rem., v., 12.

NEW PATENTS AND LAWS.

[*We will furnish gratis, to subscribers, any information relating to new patents which can be obtained from the Official Gazette of the Patent Office; and for 50c. will give copies of the drawings of such as are illustrated. Electrotypes of the illustrations contained in* NEW REMEDIES *will be furnished for 50c. per square inch.*

TRADE-MARKS REGISTERED IN U. S. PATENT OFFICE.

Certificates dated February 27, 1877.

4,397. **Perfume.**—Thomas M. Biddle, Fort Wayne, Ind. "The word-symbol 'SATISFACTION-BOUQUET.'"

4,398. **Veterinary Medicines.**—George J. Busteed, New York, N. Y. "The word 'BUSTEED'S' in connection with a barn-yard scene."

4,400. **Medical Compound.**—Wm. E. Chester & Co., Montreal, Quebec, Canada, and Boston, Mass. "A triangle with a circular space within it; a monogram composed of the letters W. E. C., and a fac-simile of the autograph signature of WM. E. CHESTER."

4,408. **Medical Compound.**—M. A. Thedford & Co., Chattanooga, Tenn. "A portrait or vignette oi Dr. A. Q. Simmons."

4,409. **Putty.**—Chicago White Lead and Oil Company, Chicago, Ill. "The designation 'STANDARD COMMERCIAL.'"

4,410. **Putty.**—The same. "The designation 'STANDARD GLAZIERS.'"

Certificates dated March 6, 1877.

4,413. **Medical Compounds.**—William W. Bartlet & Co., Boston, Mass. "The fanciful title 'IN HOC SIGNO VINCES. HONESTY.'"

4,417. **Medical Preparations.**—Dundas & Dick, New York, N. Y. "The word-symbol 'CAPSULOID.'"

4,419. **Spectacles and Eyeglasses.**—George Johnston, Detroit, Mich. "The Symbol of a Heart."

4,424. **Dentifrice.**—Francis M. Osborn, Portchester, N. Y. "The heads of a man and woman represented in the act of saluting, and the name 'F. M. OSBORN'S.'"

4,425. **Pills.**—E. R. Post & Co., Newburg, N. Y. "The fanciful title 'KNOTT'S PAIN KNOT.'"

4,427. **Preparation for the Cure of Croup.**—James Roach, Scranton, Pa. "The arbitrary word 'GALVIN'S.'"

4,432. **Perfumes.**—David G. Shaun, Boston, Mass. "The word-symbol 'GYNECO.'"

Certificates dated March 13, 1877.

4,435. **Liquid Cosmetic.**—Joseph Burnett, Boston, Mass. "The words 'AQUA DE FLORIMEL,' and the representation of a woman on horseback."

4,436. **Soap.**—William Dreydroppel, Philadelphia, Pa. "The National colors, red, white, and blue, in the form of a circular endless figure, forming the distinctive symbol shown."

4,438. **Medical Compound.**—Charles Gigault, Worcester, Mass. "The words 'THE CHILDREN'S COMFORT,' and of my fac-simile signature, Charles Gigault."

Certificates dated March 20, 1877.

4,451. **Medical Compound.**—George C. Barclay, Brooklyn, N. Y. "The fac-simile of the signature of John Reuter, and the portrait of the woman wearing spectacles," as shown.

4,453. **Soap.**—R. W. Bell & Co., Buffalo, N. Y. "The pictorial representation of the buildings and apparatus, such as trestle-works, inclined railway, &c., arranged at the mouth of a coal mine."

4,454. **Soap.**—R. W. Bell & Co., Buffalo, N. Y. "The word-symbol 'CORLISS.'"

4,456. **Medical Compound.**—Coussens & Tabler, Nashville, Tenn. "The word-symbol 'LIGHTNING.'"

4,460. **Soap.**—Robert Eastman, Philadelphia, Pa. "The word-symbol 'KITCHEN CRYSTAL.'"

4,463. **Essential Oils.**—Hiram G. Hotchkiss, Lyons, N. Y. "The fac-simile of my signature."

Certificates dated March 27, 1877.

4,479. **Medical Compound.**—Coussens & Tabler, Nashville, Tenn. "A figure resembling a bough of the horse-chestnut tree, with three figures representing the fruit of said tree, of which two are represented as attached to the said branch, and one of a larger size, represented as bursted, and lying near the said bough."

4,480. **Medical Compound.** John Carnrick, Bayonne, N. J. "The compound word-symbol 'KIDNEY-LEAF.'"

4,481. **Medical Compound.**—D. D. Daniels & Co., New York, N. Y. "The letters 'D. D. D.'"

4,482. **Liquid Paints.** Harrison Brothers & Co., Philadelphia, Pa. Case A. "The letters 'R. E. A. D. Y. M. I. X. E. D.' arranged in the form of a puzzle."

4,485. **Iron Paint.**—P. D. Nicols, Pittsburg, Pa. "The symbol of the shield."

4,487. **Medicine.**—R. V. Pierce, Buffalo, N. Y. "A symbol described as follows: A large letter P having the capital letter D of the abbreviation 'Dr.' entwined upon its stem; the said capital letter P. being so arranged as to constitute the initial of the words 'Pierce's Pleasant Purgative Pellets.'"

4,488. **Medicine.**—The same. "The letters 'R. V. P.' and 'G. M. D.' arranged in monograms, and the word-symbol 'GOLDEN MEDICAL DISCOVERY.'"

4,493. **Medical Compounds.**—Samuel T. W. Sandford, Long Island City, N. Y. "The illustration or diagram of the liver."

4,496. **Liniment.**—Clark Cook & Co., Tecuna, Nev. "The arbitrary words 'ROCKY MOUNTAIN.'"

4,498. **Toilet Powder.**—Victorine Franck, New York, N. Y. "The fanciful word 'NATRIC.'"

4,505. **Sachet Powder.**—Theodore Metcalfe and Co., Boston, Mass. "'T. Metcalfe & Co.'s' and the monogram composed of the letters 'T. M. & Co.,' the same being used in connection with the words 'SACHET POWDER.'"

LABELS.

Certificates dated March 6, 1877.

994. **"Dr. Wm. Heath's Dropsy Cure."**—John M. C. Groves, St. Louis, Mo.

995. **"Liquid Amandine."**—John G. Hill, Worcester, Mass.

997. **"Diphtheritic Troches."**—C. H. & J. Price, Salem, Mass.

Certificates dated March 13, 1877.

998. **"Solidified Glycerine."**—Charles H. Beers, New Haven, Conn.

1,000. **"Thurston's Great Scrofula Cure and Blood Purifier."** Thurston & Co., Garden City, Minn.

1,001, 1,002, 1,003. **Compressed Tablets of Chlorate of Potash.**—John Wyeth & Brother, Philadelphia, Pa.

Certificates dated March 20, 1877.

1,005. **"Foye's Italian Liniment."**—W. B. Foye, Canton, Ohio.

1,006. **"International Prize Medal Oil of Peppermint."**—Hiram G. Hotchkiss, Lyons, N. Y.

1,007. **"Toledo Banner."**—Charles R. Messenger, Toledo, Ohio.

1,008. **"Miller's Ointment for the Prevention and Positive Cure of Gathered Breasts."**—Francis L. Miller, Newark, N. J.

1,009. **"Miller's Sure Cure for Piles."**—Francis L. Miller, Newark, N. J.

1,010. **"Parce's Diphtheria Cure."**—Judson E. Parce, Otselic, N. Y.

1,012. **"Compressed Tablets of Pure Chlorate of Potash, without Gum or Sugar."**—John Wyeth & Brother, Philadelphia.

Certificates dated March 27, 1877.

1,013. **"Use Fragrance. It Cleanses the Teeth, Hardens the Gums, and Deodorizes the Breath."** E. Bugbee & Co., Somerville, Mass.

1,014. **"Colton's Toilet Article No. 3, for the Complexion and Skin."**—J. W. Colton, Westfield, Mass.

1,016–1,020. **"Notice—Directions—Keep the Bottle Well Corked, and Shake before Using—Directions—The Directions Must Be Followed."**—Marsh & Co., New York, N. Y.

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PATENTS.

Patents granted March 6, 1877.

187,956. **Compositions for Preserving.** G. G. Am Ende, Hoboken, N. J.
The composition of boracic acid and chloroform, substantially as specified.

188,006. **Bone-Black Kilns.**—Walter R. Elmenhorst, Jersey City, N. J.

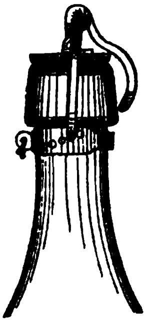
188,026. **Paint-Cans.**—E. Morton, Chicago, Ill.

188,029. **Bone-Black Retorts.**—Edw. E. Quinby, Orange, assignor to the F. O. Matthiessen & Wiechers Sugar Refining Company, Jersey City, N. J.

188,082. **Dermopathic Instruments.**—C. B. Tucker, Lyons, N. Y.

188,093. **Preserving Animal and Vegetable Substances.**—P. S. Barff, Kilburn, England.

188,139. **Bottle-Stoppers.**—Thos. Hipnell, Bridgeton, N. J., assignor to Cohansey Glass Manufacturing Company, same place.



No. 188,139.

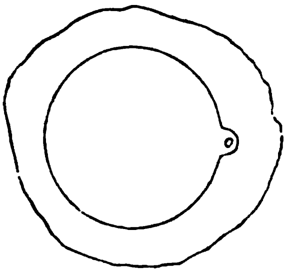
The combination in a bottle-stopper of a swinging bail, pivoted to a neck-band, a stopper pivoted to and vibrating on the swinging bail, and a stop projecting from the stopper plate to limit the throw of the swinging bail.

188,188. **Liquid Measures.**—M. C. Richards, Oswego, Ill.

188,212. **Cancelling-Inks.**—Wm. F. Van Der Linden and H. C. King, Brooklyn, N. Y. A cancelling-ink consisting of cotton-seed oil, oil varnish, ivory black, rosin black, chrome green, chrome yellow, Berlin blue, and English vermilion, substantially as described.

188,217. **Processes of Making Dyes from Naphthaline.**—Justus Wolff, Wyke, near Bradford, and Ralph Betley, Wigan, England.

188,197. **Heads for Caustic-Soda Drums.**—Jas. Simpson, Liverpool, England. Insert one of the lugs at the shortest diameter of the cover, beneath the head of the drum; drop the opposite [lug] into the recess in the head of the drum; give the cover a quarter-turn and the locking lug is, by the elasticity of the drum-head, sprung down into the recess of the drum-head.



No. 18',197.

Patents granted March 13, 1877.

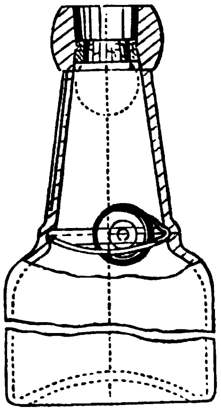
188,246. **Spectacles.**—J. Johnson, Lowell, Mass.

188,264. **Eyeglasses.**—John S. Spencer, New York, N. Y.

188,274. **Filters.**—Geo. W. Woolsey, Toledo, Ohio.

188,286. **Pomade.**—Mack Culberton, Lake City, Minn. The hair pomade composed of cocoa or palm soap, salts of Tartar, glycerine, oil lavender, and citronella, in the proportions substantially as above described.

188,293. **Bottle-Stoppers.**—W. H. Hicks, Brooklyn, N. Y. A detachable controlling bridge of less area than the area of the bottle at that point, placed across the inner wall of a bottle to support a stopper or closing piece, and on one side of the perpendicular centre-line of the bottle, formed to control the stopper from falling to its rest when the bottle is turned upon one side, and so formed as to allow the stopper to pass it freely on the other side of said centre-line.



No. 188,293.

188,303. **Manufacture of India Rubber Hose and Tubing.**—T. Murphy, New York, N. Y.

188,307. **Trusses.**—Jacob A. Sherman, New York, N. Y.

◆

The "London" Cement for joining broken glass, china, wood, etc., is made by taking a piece of Gloucester cheese, boiling it three times in water (each time allowing the water to evaporate), and mixing the paste thus left with dry quicklime.—*Scientific American.*

Cutler's Cement, for fastening blades of dinner knives in ivory handles, consists of rosin 4 parts, beeswax 1 part, plaster of Paris or brickdust 1 part. Fill the hole in the handle with the cement, heat the tang of the blade, then press it in.—*Scientific American.*

PRESCRIPTIONS AND FORMULÆ.

Standard Formulæ for Certain New Preparations.

(Continued from page 126.)

1. *Phenol-sodium.*

Phenol (carbolic acid)	70 gm.
Caustic soda	30 "
Water, q. s. to make	1 litre.

2. *Emulsion of Substances insoluble in Water.*

For this purpose a tincture of soap-bark, *Quillaya Saponaria*, of the following strength may be used:

Soap-bark	100 gm.
Alcohol, 90%	500 "

Digest the bark with the alcohol for half an hour at a temperature near the boiling point; then allow it to macerate for 48 hours longer, frequently shaking, and filter.

3. *Emulsion of Balsam of Tolu.*

Balsam of tolu	2 parts.
Alcohol, 90%	10 "
Tincture of soap-bark	10 "
Hot water	78 "

Dissolve the balsam in the alcohol, add the tincture to the solution, and finally the water.

4. *Emulsions of Copaiva, of Tar, and of Oil of Cade* are prepared in the same manner.

5. *Aqua Eucalypti; Eucalyptus water.*

Distil 1 part of dry eucalyptus leaves with water, until 4 parts are obtained.

6. *Syrupus Eucalypti; Syrup of Eucalyptus.*

Eucalyptus leaves	50 gm.
Eucalyptus water	100 "
Water	q. s.
Sugar	650 gm.

Infuse the eucalyptus leaves in 250 gm. of water, strain and express after 3 hours, filter and make up with water to 250 gm.; then add the 100 gm. of eucalyptus water, and dissolve the sugar in the liquid, with the aid of a moderate heat, in a covered vessel.

7. *Eserine, or Physostigmin* (the alkaloid of Calabar Bean, Physostigma venenosum). Exhaust powdered Calabar beans mixed with 1 per cent. of tartaric acid, by means of repeated digestion and percolation with hot alcohol (about 3 times the weight of the powder for each digestion). Distil most of the alcohol off, filter the remainder, and heat on a water-bath until all the alcohol has been dissipated. When cold, add a small quantity of distilled water, and filter to separate resinous matter. Shake the filtered liquid with several portions of washed ether, until the latter ceases to become colored. Now add to the aqueous liquid remaining, which still contains the eserine as tartrate, a slight excess of potassium bicarbonate. Shake this mixture several times with ether, separate and unite the ethereal solution, and allow it to evaporate spontaneously, when the alkaloid eserine is left behind in crystals, which are rendered pure by a second crystallization.

8. *Bromhydrate of Eserine* is prepared by dissolving the foregoing alkaloid in colorless bromhydric acid, and evaporating to a syrupy consistence. In a few days fibrous, slightly colored, but not deliquescent crystals, make their appearance.—*Rép. de Pharm.*, 1877, 193.

Mosler's Tape-Worm Bolus. (Boli tænifugi, Mosler.)

	Grammes
℞. Florum koosso	30
Kamalae	15
Oleoresinae filicis maris	4
Mellis	q. s

Mix and divide into 60 bolus, which may be sprinkled over with powdered cinnamon, and of which 30 should be taken in the evening, and 10 or 20 more the following morning.

ITEMS.

College of Pharmacy of the City of New York.—A special meeting of the College to take action in respect to the proposed modification of the plan of revising the U. S. Pharmacopœia, was proposed to be held during the present month. It has been decided, however, to defer the meeting for the present.

We regret to record the death, on Thursday, May 3d, at noon, of Mr. Max Frohwein, a respected member and a graduate of the College, who did business at the corner of Columbia and Rivington Streets, New York; and of Mr. Victor Herdling, a member of the last graduating class, whose demise we learn just as we are going to press.

An Act to regulate the weights and balances used in compounding and dispensing drugs and medicines in the City of New York. [See Editorial.]

The people of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1. Every druggist and every apothecary, doing business in the city of New York, shall, on or before the first day of July, eighteen hundred and seventy-seven, be provided with the following appliances, to wit: First, a balance capable of carrying at least ten grammes in each pan, and sensible to three milligrammes when thus charged; second, a balance capable of carrying five hundred grammes in each pan, and sensible to two centigrammes when thus loaded; third, a set of metric weights, from two hundred grammes to one centigramme. Said weights and all other weights used in compounding drugs and medicines shall not vary from accuracy more than one per cent. for all weights weighing five grammes or less, nor more than one half of one per cent. for all weights weighing fifty grammes or less, and more than five grammes. All weights and balances used in compounding and dispensing drugs and medicines shall at all times be maintained in good order and correct adjustment.

§ 2. The only weights that shall be employed in compounding and dispensing of drugs and medicines shall be Troy weights and metric weights.

§ 3. It shall be the duty of the mayor of the City of New York, within twenty days after the approval of this act, to appoint an officer who shall be called the inspector of druggists' weights, and who shall hold office during the pleasure of the mayor.

§ 4. It shall be the duty of said inspector to inspect at least once a year, and oftener if necessary, all drug stores in the City of New York, and to examine the weights and balances therein contained which are used for the purpose of compounding and dispensing drugs and medicines, and to confiscate all such [weights] as shall not come up to the standard of accuracy required in section one of this act. It shall further be the duty of said inspector to collect from every druggist or drug firm failing to comply with any portion of section one of this act the sum of ten dollars, for which he shall give to the druggist a proper receipt. It shall further be the duty of said inspector to make a quarterly report to the mayor, which report shall contain the number of inspections made, and the names and places of business of all druggists who shall have failed to comply with the provisions of this act, and the names of all druggists from whom he shall have collected money as hereinbefore provided. The said report shall be attested before a notary public of the County of New York. The said inspector shall at the same time deliver to the mayor, for the use of the city, all moneys collected and all weights confiscated by him under the provisions of this act.

§ 5. The said inspector is hereby authorized to appoint a deputy inspector to assist him in the discharge of his duty under this act, and to delegate to him so much of the powers herein conferred upon said inspector as he may see fit.

§ 6. It shall be unlawful for any druggist or apothecary, by himself or his employees, to hinder or impede said inspector or his deputy in the proper pursuit of his duties under this act. Any druggist or apothecary, or any of his employees, so offending, shall upon conviction be deemed guilty of a misdemeanor.

§ 7. The salary of said inspector of druggists' weights shall be at the rate of twelve hundred dollars per annum, to be paid out of the city treasury in quarterly installments, after the first day of July, eighteen hundred and seventy-seven, provided that the sums collected by said inspector, and delivered to the mayor, in accordance with section four of this act, shall be equal to the amount of salary then due. If the sums collected by the said inspector shall not equal the amount of salary nominally due, the said inspector shall receive as compensation the amount of the sums collected, and no more.

U. S. Custom House Tariff and Regulations for Drugs, Chemicals, and Medical Compounds.

Acids for medicinal use	10 per cent.
" " manufacturing purposes	Free.
Articles used for dyeing or tanning in a crude state, not otherwise provided for	Free.
" used for dyeing or tanning, not in a crude state	20 per cent.
Chemical salts, not otherwise provided for	20 per cent.
" " used chiefly in medicines	40 per cent.
Drugs (A) and medicines, crude, not otherwise provided for	Free.
Medicinal balsams, not otherwise provided for	30 per cent.
Medicinal (B) barks, flowers, leaves, plants, roots and seeds, in a crude state, not otherwise provided for	Free.
same, not crude	20 per cent.
" preparations, not otherwise provided for	40 per cent.
" water, all not artificial	Free.
" waters, artificial, in bottles or jugs containing not over one quart	3 cts. each and 25 per cent.
" waters, artificial, in bottles or jugs containing over one quart, for each additional quart or fractional part	3 cts. and 25 per cent.
same, not in bottles	30 per cent.
Medicines and drugs, crude, not otherwise provided for. (See note to Drugs.)	20 per cent.
" not crude or patent, as medicinal prep. not otherwise provided for.	40 per cent.
" patent, viz.: pills, powders, tinctures, troches or lozenges, syrups, cordials, bitters, anodynes, tonics, plasters, liniments, salves, ointments, pastes, drops, waters, essences, spirits, oils, and other medicinal preparations or compositions, recommended to the public as proprietary medicines, or prepared according to some private formula or secret art, as remedies or specifics for any disease or diseases of affections whatever affecting the human or animal body	50 per cent.

Note A.

If, on examination, any drugs, medicines, medicinal preparations, whether chemical or otherwise, including medicinal essential oils, are found, in the opinion of the appraiser, to be so far adulterated, or in any manner deteriorated, as to render them inferior in strength and purity to the standard established by the United States, Edinburgh, London, French, and German Pharmacopœias and dispensatories, and thereby improper, unsafe, or dangerous to be used for medicinal purposes, a return to that effect shall be made upon the invoice, and the articles so noted shall not pass the Custom House.

It is not conceived to be the intention of the law that the articles referred to should conform in strength and purity to each and all of those standards, as such conformity is believed to be impracticable, owing to the variations in those standards. If, therefore, the articles in question be manufactured, produced, or prepared in England, Scotland, France, or Germany, as the case may be, and prove to conform in strength and purity to the Pharmacopœia and Dispensatory of the country of their origin, said articles become exempt from the penalties of the law. All articles of the kind mentioned, produced, manufactured, or prepared in any other country than those before mentioned, must conform in the qualities stated to the United States pharmacopœia and dispensatory.

With a view to afford a reliable guide to the examiner of drugs and medicines, as well as to the analytical chemist, on appeal, in ascertaining the admissibility of such articles under the provisions of law, founded on their purity and strength, the following list is given of some of the principal articles, with the result of special tests agreeing with the standard authorities referred to in the law; all of which articles are to be entitled to entry when ascertained by analysis to be composed as noted, viz.:

Aloes, when affording 80 per cent. of pure aloetic extractive.

Assafœtida, when affording 50 per cent. of its peculiar bitter resin, and 3 per cent. of volatile oil.

Bark, Cinchona, when affording 1 per cent. of pure quinia, whether called Peruvian, Calisaya, Arica, Carthagena, Maracaibo, Santa Martha, Bogota, or under whatever name, or from whatever place, or

Bark, Cinchona, when affording 2 per cent. of the several natural alkaloids, combined as quinia, cinchonia, quinidia, aricine, etc., the barks of such strength being admissible as safe and proper for medicine, and useful for chemical manufacturing purposes.

Benzoin, when affording 80 per cent. of resin, or

Benzoin, when affording 12 per cent. of benzoic acid.

Colocynth, when affording 12 per cent. of colocynthin.

Elaterium, when affording 30 per cent. of elaterin.

Galbanum, when affording 60 per cent. of resin, or

Galbanum, when affording 19 per cent. of gum and 6 per cent. of volatile oil.

Gamboge, when affording 70 per cent. of pure gamboge resin, and 20 per cent. of gum.

Guaiacum, when affording 80 per cent. of pure guaiac resin.

Gum ammoniac, when affording 70 per cent. of resin and 18 per cent. of gum.

Jalap, when affording 11 per cent. of pure jalap resin, whether in root or in powder.

Manna, when affording 37 per cent. of pure mannite.

Myrrh, when affording 30 per cent. of pure myrrh resin and 50 per cent. of gum.

Opium, when affording 9 per cent. of pure morphia.

Rhubarb, powdered rhubarb in bulk not admissible. None now entered at this port. A small amount occasionally of *select powder* in lb. bottles, such as Herring's, occasionally imported. None admissible but the article known as East India, Turkey, or Russian rhubarb.

Sagapenum, when affording 50 per cent. of resin, or

Sagapenum, when affording 30 per cent. of gum, and

Sagapenum, when affording 3 per cent. of volatile oil.

Scammony, when affording 70 per cent. of pure scammony resin.

Senna, when affording 28 per cent. of soluble matter.

All medicinal leaves, flowers, barks, roots, extracts, etc., not herein specified, must be, when imported, in *perfect condition*, and of as *recent collection and preparation* as *practicable*.

All pharmaceutical and chemical preparations, whether crystallized or otherwise, used in medicine, must be found on examination to be pure and of proper consistence and strength, as well as of perfect manufacture, conformably with the formulas contained in the standard authorities named in the act, and must, in no instance, contain over 3 per cent. of excess of moisture or water of crystallization.

Essential or volatile oils, as well as expressed oils, used in medicine, must conform in purity to the standards of specific gravity noted and declared in the Dispensatories mentioned in the act.

"Patent or secret medicines are by law subject to the same examination and disposition, after examination, as other medicinal preparations, and cannot be permitted to pass the Custom House for consumption, but must be rejected and condemned, unless the special examiner be satisfied, after due investigation, that they are fit and safe to be used for medicinal purposes."

Note B.

All drugs, medicines, medicinal preparations, including medicinal essential oils and chemical preparations used wholly or in part as medicine, imported from abroad shall, before passing the Custom House,. be examined and appraised, as well in reference to their quality, purity, and fitness for medical purposes, as to their value and identity specified in the invoice.

All medicinal preparations, whether chemical or otherwise, usually imported with the name of the manufacturer, shall have the true name of the manufacturer and the place where they are prepared permanently and legibly affixed to each parcel by stamp, label, or otherwise; and all medicinal preparations imported without such names so affixed, shall be adjudged to be forfeited.

If, on examination, any drugs, medicines, medicinal preparations, whether chemical or otherwise, including medicinal essential oils, are found, in the opinion of the examiner, to be so far adulterated, or in any manner deteriorated, as to render them inferior in strength and purity to the standard established by the United States, Edinburgh, London, French, and German Pharmacopœias and dispensatories, and thereby improper, unsafe, or dangerous to be used for medicinal purposes, a return to that effect shall be made upon the invoice, and the articles so noted shall not pass the Custom House, unless, on a re-examination of a strictly analytical character, called by the owner or consignee, the return of the examiner shall be found erroneous, and if it be declared as the result of such analysis, that the articles may properly, safely, and without danger, be used for medicinal purposes.

The owner or consignee shall at all times, when dissatisfied with the examiner's return, have the privilege of calling, at his own expense, for a re examination; and the collector, upon receiving a deposit of such sum as he may deem sufficient to defray such expense, shall procure some competent analytical chemist possessing the confidence of the medical profession, as well as of the colleges of medicine and pharmacy, if any such institutions exist in the State in which the collection district is situated, [to make] a careful analysis of the articles included in the return, and a report upon the same under oath. In case this report, which shall be final, shall declare the return of the examiner to be erroneous, and the articles to be of the requisite strength and purity, according to the standards referred to in the next preceding section, the entire invoice shall be passed without reservation on payment of the customary duties.

If the examiner's return, however, shall be sustained by the analysis and report, the articles shall remain in charge of the collector, and the owner or consignee, on payment of the charges of storage, and other expenses necessarily incurred by the United States, and on giving a bond with sureties satisfactory to the collector, at the expiration of that time, shall cause the same to be destroyed, and hold the owner or consignee responsible to the United States for the payment of all charges, in the same manner as if the articles had been re-exported.

One of the assistant appraisers at the port of New York, to be appointed with special reference to his qualifications for such duties, shall, in addition to the duties that may be required of him by the appraiser, perform the duties of a special examiner of drugs, medicines, chemicals, and so forth.

[For three or four years past the officer at this port has rejected *all* powdered drugs in bulk, except such as could, in their powdered condition, be tested for some known active principle.]

The Tariff on Quinia.—At the meeting of the Kentucky State Medical Society, in April, the following preamble and resolutions were offered by Dr. Larrabee, and were unanimously adopted by the Society:

Whereas, It has come to our knowledge that a bill, known as the "Morrison Bill," for the discontinuance of the "tariff on quinine," is at this time before the Committee on Ways and Means in the Congress of the United States; and whereas, the welfare of a large portion of the people in the Western States and Territories is concerned in the issue of this bill, as well as any movement which will enable them to obtain quinine at a less cost than the enormous prices now paid by the consumer; and whereas, the opposition to this bill set forth by the manufacturers and trade does not represent the desire of those who are engaged in the relief of suffering and want, but ignores entirely the necessities of this large population, many of whom are engaged in cultivating the soil and opening up new resources of wealth to the government in malarial districts; and whereas, principles of justice and humanity alike demand free quinine and an open market for the competition of European manufacturers; and whereas we, the members of the Kentucky State Society, in convention assembled, represent the sentiments of the people of this commonwealth upon this important subject; therefore, be it resolved,

First—That we indorse the "Morrison Bill," and do further pray that your honorable body will hear our petition.

Second—That a copy of these resolutions (printed) be sent to similar organizations of physicians' meetings in the various States.

Third—That these resolutions, with the signatures affixed, be furnished to our senators and representatives in Congress of the United States at its next meeting.

The Alkaloids of Cinchona.

THE following editorial in the *Pharmaceutical Journal* of April 28th concerns the trade, the medical profession, and the public on this side of the Atlantic to such an extent that we copy it entire:

"The bark sale held last Tuesday was remarkable for the large quantity of East Indian bark put up, and still more for the high prices which it commanded. Even the red bark, which is the produce of *Cinchonia succirubra*, and is generally characterized by containing a very large proportion of cinchonidine, together with a comparatively small amount of quinine, was sold at prices as high as those which were paid some months ago for bark suitable for the manufacture of quinine. Some of the crown bark from the plantations in the Madras Presidency realized from twelve to fifteen shillings a pound, in consequence of the large amount of quinine that it contains, and the great demand that there is now for bark.

"The prices given for these parcels of bark were not in all instances proportionate to the amount of quinine contained in them. This may be partly due to the circumstance that particular lots were bought for making pharmaceutical preparations, more on account of the appearance of the bark than any better reason, since it often happens that bark of good external character fetches a price altogether out of proportion to the amount of alkaloid it contains. The contrary is also true sometimes, and at the last sale some bark containing a high percentage of quinine was not bid for to the extent of its relative value, but was bought in at a merely nominal price. It is at the same time deserving of notice that several parcels of bark containing chiefly cinchonidine realized a very high price.

"The fact that such unusual prices have been paid for bark seems to indicate that there is little prospect of a reduction in the price of quinine, which is now upwards of three times the price it was some six or eight months ago, and consequently the present seems a favorable opportunity for some effort to be made to introduce into legitimate use cinchonidine and the other alkaloids associated with quinine.

"The results that have been obtained by the Medical Commissioners intrusted with the inquiry into the relative febrifuge value of these alkaloids have sufficiently shown that they are not much inferior to quinine in their efficacy, but as yet little has been done in this country towards the practical application of the experience gained by the trials made in India. None of these alkaloids are officinal in any of the existing pharmacopœias, although the much less satisfactory preparation called quinoidine, or amorphous quinine, is contained in the German Pharmacopœia; and though salts of cinchonidine are abundantly manufactured in a state of purity, and of a crystalline character equal to the best qualities of quinine salts, there is not any recognized use to which these preparations are applied in this country.

"It would, therefore, seem that by the introduction of cinchonidine into use, a very considerable service might be rendered, and the influence of the high price of quinine in restricting its use might be to a very great extent made up for, with great advantage to certain classes of the community. Moreover, the adoption of this course would probably contribute somewhat to prevent the substitution of cinchonidine for quinine and its admixture with that alkaloid in the manner that we have recently pointed out to be frequent."

Potassium Xanthogenate as an Antiseptic.—Not long since we recorded the discovery of remarkable antiseptic and conservative properties in the well-known bisulphide of carbon. Unfortunately, this substance is exceedingly offensive to smell and taste, poisonous, combustible, and even explosive if mixed with air. If, however, it be mixed with an alcoholic solution of caustic potash, it combines with these substances to form a crystalline substance known as xanthogenate of potassium. This latter salt is quite as powerful as the more offensive bisulphide of carbon.

Zöller, in a letter to Professor Hofmann, states that the antiseptic properties of potassium xanthogenate are certainly not surpassed by those of any other known substance. A very small quantity of it has kept plant juices and extracts for eight months, whether closed or open, no mould or decomposition taking place, nor is the taste affected, and they can be taken without injury. At the beginning of October, Dr. Grote added some of this salt to wine must, and at the end of three months, the must preserved the flavor and sweetness of the fresh juice. Several persons partook of considerable quantities of this preserved drink without suffering any inconvenience. Dr. Zöller expresses the belief that the xanthogenate will become naturalized in every household on account of its cheapness, ease with which it can be used, non poisonous qualities, and the small quantity required for the purpose.

Xanthogenate of potassium may be employed in medicine, both externally and internally; and to avoid the action of potassium on the system, the xanthogenate of sodium could be used for medicinal purposes.—*Scientific American.*

Melon Sugar.—A company has been formed in California with the object of cultivating melons for the purpose of producing sugar from them. There is every prospect of success in this enterprise. Sugar can be made with far less trouble from the melon than from the beet root; nothing like the same amount of purification is necessary. The cultivation and collection of melons is much easier than is that of beet root, and lastly the surplus of the melon can be turned to valuable account. The seeds yield an oil excellently adapted for table use, while the final residue makes a nutritious cattle food. It is probable that beet root can be grown in a smaller space than can melons to yield an equal proportion of sugar; but there are, doubtless, many parts of the world where this consideration would be overbalanced by the economy in the labor and expense of cultivation.

Glucose.—The demand for glucose on the part of confectioners and others throughout the country is enormous, and heretofore the supply has come from France and Germany. Quite recently, however, the manufacture of pure glucose from corn has been undertaken in Davenport, Iowa, and is now being carried on at the rate of 500 bushels per day.

Dangerous Vinegar.—The Board of Health of the District of Columbia recently condemned five car-loads of vinegar sent to Washington from Chicago, on the ground that it is not a genuine article and is very injurious to health. An analysis of the so-called vinegar has been made. It appears, according to the report of the Board of Health, that the vinegar contains $54\frac{44}{100}$ grains per gallon of anhydrous sulphuric acid, combined with lime, to form sulphate of lime equivalent to $117\frac{20}{100}$ grains of gypsum per gallon, and, besides that, five grains of free sulphuric acid per gallon. The Board also reports that this sample was taken from an invoice of more than 1,000 barrels brought here to be sold as vinegar, and that it is likely to find a ready sale on account of its low price. The report concludes as follows; "When we think that oil of vitriol (sulphuric acid) can be bought at five cents a pound, and that a pound of said acid would render a barrel of fluid as acid as the strongest vinegar, the wonder will cease that it is sold cheap. This, therefore, is a fraud upon commerce and a dangerous substitute for vinegar."

The Hygiopolitan Pharmacist.—"It is understood that the city of health suggested by Dr. Richardson is to be actually erected next spring, on the south coast, within an easy distance of Brighton. Much interest will certainly be evoked by this scheme among theorists of every class, and the promoters of the enterprise will be in no danger of failing for lack of advice. It would be ungenerous if those many excellent gentlemen who have devoted their lives to pharmacy, and who are always ready with elaborate plans for the perfection of their profession, should withhold their assistance. Surely our old friend, 'who has known the drug trade thirty years,' will oblige. There will then and there be an opportunity of establishing a model pharmacy, and in the interest of his city, as well as in his capacity of chairman of the Medical Defence Association, Dr. Richardson would doubtless give his hearty assent and consent to such an idea. Let the Pharmaceutical Council take this subject into their serious consideration. Let them determine to produce a model pharmacist; one who shall meet the desires of their own hearts, and who shall never incur any reproach from their condescending friends of the medical profession. Let them appoint one of their omnipotent committees to elaborate a series of rules which shall so hedge around his conduct that they may ultimately be able to point to him as a specimen of the article which during all these long years, by examinations and pharmacy acts, by lectures and laboratories, by inaugural addresses and silver medals, by deputations to foreign societies and grants to provincial associations, by evening meetings and *conversazioni*, by editors, professors, solicitors, secretaries and committees, by microscopes, spectroscopes, polariscopes, blowpipes, tobacco-pipes, champagne, tea, coffee, biscuits, and cake, through good report and through evil report, they have been aiming to produce. Let us try to imagine a perfectly satisfactory hygiopolitan pharmaceutist, such as the learned and pseudo-learned societies and amateur legislators of our country would turn out if they could. Here is an indication of the rules which the committee might propose with the view of developing such a one:

1. He must of course have been associated with the Pharmaceutical Society from his youth up, and equally, of course, he must be able to show a record quite free from association with any other trade society.

2. He must pass an examination before competent authorities to prove that he is utterly devoid of business qualifications.

3. He shall be required to discover at least one new alkaloid, and to detect lead in at least one hitherto unsuspected substance in the course of each twelve months.

4. He shall keep nothing in his stock but drugs and chemicals; pharmaceutical preparations, perfumery, patent and homœopathic medicines, and every advertised product shall be rigorously excluded.

5. He shall declare on the label of everything sold by him the exact chemical constitution of such substance, and shall be responsible for the exactness of such statement.

6. In the event of any accidental death in the city resulting from a physician's or surgeon's error, he shall at once step forward and give himself up to the police on a charge of manslaughter. His private property, reputation, and all he may have, shall be at the disposal of any public

analyst or secretary of medical defence association who may wish for it.

7. He shall refuse to converse with any customer entering his shop. Even remarks about the weather might lead to phrases which might seem to suggest remedies for colds, coughs, diarrhœa, etc., which would infringe the Apothecaries act; therefore it is though tbest that he should be reduced to absolute silence.

8. He shall supply medicines of different potencies in bottles or packages of distinctive colors. If the existing variety of colors run out, he shall invent new ones.

9. He shall keep every substance or preparation likely to be used in dispensing locked up in a separate cupboard. A witness shall watch the weighing or measuring of each article, and everything shall be exhaustively analyzed before being dispensed.

10. If medicines fail to act as the physician expects, the pharmaceutist shall be publicly disgraced.

11. He shall never be so discourteous as to observe an error in a physician's prescription; he shall dispense prescriptions exactly as they are written, and at the same time shall avoid any dangers resulting from hasty or careless writing. If he finds it difficult to reconcile these conflicting regulations, he must understand that the regulations shall remain, whatever may become of him.

12. His business shall be carried on under inspection of a committee selected from the Pharmaceutical Council, the Society of Public Analysts, the Medical Defence Association, the coroners of Great Britain, and every policeman *ex officio*. The decision of any one of these shall be final; and if any of them shall disagree, the pharmaceutist shall obey both.—*Chemist and Druggist.*

Sticks of Copper Sulphate.—Four parts of copper sulphate and one part of borax triturated together are said to form a mass that can be rolled into sticks at pleasure for cauterizing purposes.

Liquid for Chemical Bath.—The *Iron Age* says that a solution of chloride of lime in glycerine will make a chemical bath which will not boil below 572° or 626 Fahr., and has the further advantage of never attacking metals nor congealing.

The British Pharmacopœia.—It is reported that a new edition of this pharmacopœia is soon to be issued, the last one being nearly exhausted.

Copper in Peas.—The poisoning of peas, beans, asparagus, artichokes, and other vegetables put up in cans for use as food, has recently been made the subject of a formal report by M. Pasteur. In some tins of peas he found copper to the amount of one-thousandth part of the entire weight of the food.

Mr. R. H. Patterson has been appointed to the Chair of Botany in the University of Glasgow.

Pharmaceutical Society of Ireland.—At a recent examination for the degree of Pharmaceutical Chemist, fourteen out of twenty-seven candidates were rejected.

The Latest Parisian Novelty is said to be an enema apparatus, combined with a musical box so arranged that while working the instrument according to its medical duties it shall at the same time warble forth some of the choice melodies of "La Fille de Madame Angot."

Secrets of Success in Pharmacy.—The *Chemist and Druggist* says its dispensing creed includes these articles of faith:

"1. A slow dispenser is, on an average, a bad one.

"2. A rapid dispenser is, on an average, a good one, because his quickness arrives from varied practice, and a concise sense of a knowledge of his business.

"3. The errors due to external distraction are rendered infinitesimal by the force of habit.

"4. The best chance for a dispensing establishment, subject to the purity of drugs, is a mutual understanding and personal intercourse between the patient and dispenser.

"5. The rise of every great pharmacy with whose history we are acquainted has been due as much to the confidence reposed in its individual dispensers as to the excellence and character of its preparations."

Pharmacy in Australia.—Victoria has two acts governing the practice of pharmacy, which went into operation on the 1st of January, and resemble very closely the laws in force in Great Britain.

Lavœsium.—A French chemist claims to have discovered another new metal, which he has named, as above, after Lavoisier. He thinks it is widely disseminated, and describes it as being of a silvery white color, malleable, and fusible. Several of its spectrum lines coincide with those of copper. [—? Ed. N. R.]

Scientific Information for Ladies.—In spite of all the efforts of the educational powers that be, to spread scientific instruction amongst the people, the instances that daily crop up of the crass ignorance on matters of science, amongst even well-educated writers, are sufficiently amusing to the initiated. A wiseacre who has compiled the "Lady's Every-Day Book," describing castor oil, coolly informs us that "this very safe and common aperient is an oily substance secreted by the beaver. We obtain it both from Russia and America, but that obtained from the latter country is esteemed the best." We can fancy a fond mother trying to cram half an ounce of Russian castoreum, membranous bag and all, down her lovely infant's throat, under the impression that it was a "very safe aperient."—*Chemical News.*

Neptunium: a New Metal.—Prof. Hermann announces in the last issue of the *Journal für praktische Chemie* the discovery of a new metal, to which he gives the name of Neptunium. The new metal was discovered in a mineral of the Columbite group, in the course of an investigation on the oxides of niobium, tantalum, and the supposed "ilmenium."

Another Source of Tannin.—Hancock, Me., factories pay $5 a ton for sweet fern to make tannin of.

Blue Glass on the Railroad.—An odd car on the Bellefontaine line, St. Louis, has been fitted up with blue glass windows. The effect of the pallid blue light upon the complexion of passengers is something startling, but the thing appears to take with them, says the *Republican.*—*The Polytechnic Review.*

Chemical Prizes.—Among the prizes offered by the German *Verein zur Beförderung des Gewerbfleisses* are the following:

A silver medal or its value, and 900 marks (about $200), for an opaque red enamel for gold, silver, copper, and bronze.

A gold medal, or its value, and 3,000 marks, for a substitute for caoutchouc; the same for a suitable substitute for gutta-percha.

A prize of 100 marks for a concise, critical, and practical treatise on cements; also 1,500 marks for the best investigation of the cause of a change in the zero point of thermometers, with a method of preventing or remedying it.

A prize of 2,000 marks for the best series of iron and manganese alloys, at least twenty samples to be prepared, containing from 0.5 to 5 per cent. of manganese.—*Scientific American*, April 14, 1877.

A New Anæsthetic has been described by M. Rabuteau before the Academy of Sciences, Paris. It is hydrobromic ether, which, he says, can be administered without difficulty, and which is, moreover, eliminated almost completely by the respiratory passages. It holds an intermediate place between chloroform, bromoform and ether. Considering the frequent recurrence of chloroform accidents, any new anæsthetic which promises to yield a greater degree of immunity from danger of a fatal result is worthy of trial.

The Mineral Spring at Berresborn.—R. Bender says that water of this spring, which was known to the ancient Romans, has recently been analysed and found to contain a large percentage of lithium, also traces of cæsium, rubidium, bromine and iodine.

NEW REMEDIES.

AN ILLUSTRATED MONTHLY TRADE JOURNAL OF
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EDITORIAL.

IT has long since ceased to be thought strange that the way people will take sides in a question depends very greatly upon the influence its settlement may have upon their personal interests, but we have such a case in point that we are tempted to mention it.

On page 256 of our last volume may be found a news item from which we quote as follows :

> "Professor Bouchardat of Paris, in his capacity as member of the Council of Hygiene and Salubrity, recently submitted a report to the prefect of police, in which he pointed out that in a specimen of ham said to be imported from Cincinnati, the ham was enveloped in a cloth saturated in a yellow substance. This yellow substance proved to be composed of the chromate of lead, a most deadly poison. It was suggested in the report that particles of this substance may become detached and be mixed up with the alimentary substances vended by grocers and others, and thus run the risk of poisoning those who make use of them. By a decree from the police the substances so enveloped were seized and buried under ground, and future supplies are to be treated in a similar manner."

It may be noted here that there was no attempt to show that a trace of the poison could be found in the ham itself, and no mention was made of the fact that between the painted cloth bag and the ham were interposed a number of folds of thick paper which completely protected the meat from possible contamination. It was the bare possibility that the yellow paint *might* get into other articles for consumption which led to such summary proceeding. Compared with the *possible* harm to the ham-eating Frenchmen, the *actual* loss to the American dealer was hardly worthy of consideration.

Now, let us turn to page 172 of this number. It may be said here that French peas have long been noted for certain qualities which have rendered them quite as much desired by some persons as Cincinnati hams have been by others, and the most important of these has been the bright green color which they retain even after being cooked, and which renders their appearance on the table so attractive. That this vividness of color depends upon the presence of a salt of copper has long been commonly known ; but it was not until prosecutions in British courts, of infringements of the laws prohibiting the adulteration of articles offered for sale as food, threatened to injure the French industry of adding sulphate of copper to peas, that our Gallic friends have given the subject any serious attention. In this instance the question is not whether there may *possibly* be contamination with a poison. The presence of poison is not only admitted, but *recommended;* and we are given to understand that the man is better served who gets a quarter of a grain of blue vitriol with his peas than one who is obliged to take them *au naturel.*

THE AMERICAN MEDICAL ASSOCIATION, in its action upon the Pharmacopœia question, is quite likely to justify its reputation for fogyism, the truth being that about everything in the way of professional reform and advancement has its origin outside of that body, and is carried through to fulfilment by the efforts of others. In some cases this has been done in spite of the Association, which, instead of co-operation, has offered only hinderances. A good illustration of this is the way in which the question of the admission of women to the profession was handled. The fact that the Association at its meeting in Chicago tabled the proposition of Dr. Squibb, is no argument whatever that the revision of the Pharmacopœia which he proposes, or even his plan for accomplishing it, is not desirable, since it is the habit of the Association to do so with about every question that really deserves attention or may involve an exercise of authority.

As the matter stands at present, there is little likelihood that the revision of 1880 will be undertaken in any other than the customary way; but there is quite as little doubt that the character of the work done and the methods adopted to meet the requirements of the two professions interested, will have to be very different from that of the last revision, or the Pharmacopœia issued by the "National Convention" will cease to be looked upon as an authority and another will take its place by common consent.

A NUMBER of Brooklyn physicians and pharmacists have connected their offices by means of a telegraph. What special advantage is to accrue to them from such an arrangement we have yet to learn, unless it is true, as has been stated, that it is for the purpose of enabling them to influence business in each other's favor. Dr. A., being engaged, can secure the attendance of some one "on the line" in an urgent case, or a person applying at a drug-store for the address of a physician can be told which one of the "ring doctors" is at home. It is said that the arrangement had its origin in a chess club, and was undertaken to enable the members to keep track of the game without being absent from their places of business. This, we presume, will be the chief use to which the line will be put, and those who see in it an attempt to exercise an unfair control of the business of prescribing and dispensing medicines will find their fears ungrounded.

OUR CORRESPONDENT at Chicago writes us that "The preparation men from Philadelphia and New York came in such an eager swarm that it looked as if the Association had met for their benefit only, and so it was decided not to permit any exhibition or distribution of any kind to be made in the building. But, at the eleventh hour, concession was made in favor of medical publications, in the vestibule. Wm. Wood & Co., and Appleton, of New York, and Lea, and Lippincott, of Philadelphia, having men here, had permission to show their goods in that part of the hall. I found on visiting ——'s, that they proposed occupying the whole space to the exclusion of all the rest, and through some influence succeeded in putting a stop to their greedy arrangements, and got a place arranged for each."

It has for a number of years been customary, in such meetings of British societies, to have an "annual museum" where there might be exhibited things of interest to the members present. We would suggest that in future it would be not only well, but an exceedingly valuable part of the arrangements for such meetings as those of our State and National Associations, if a committee of each association should be appointed to make arrangements for such an exhibit and solicit the coöperation of the publishers, instrument-makers, manufacturing pharmacists, and others who would, without doubt, be quite prepared to bear the actual expense of such exhibit. An evening could be given with profit to attendance upon such a display as would be made, and in connection with the trial and explanation of new instruments and apparatuses, it would form one of the most attractive features of the meeting.

Our correspondent says further, that "Mr. Fortum, of McKesson & Robbins's establishment had a fine display, especially prepared for the occasion, and succeeded in renting a room in the building to show it in."

WE are able to present on page 178, the first of a series of articles on the apparatus for manufacturing and dispensing carbonated beverages, which embraces an amount of practical information never before, to our knowledge, collected into such shape. We trust that these papers will be of far greater value to the trade than the usual formulas for "soda-water syrups," which seem to comprise about all the information that most pharmaceutical journals have been able to offer their readers in connection with this important feature of their business.

We omitted to state, in our announcement of a prize for the best analysis of adulterated drugs, to be furnished by us, at what time the receipt of papers would be closed. For this reason we are not able to come to a decision in time for this number. We will continue to receive the answers to the first series of analysis until the 25th instant, and will declare the result in the July number. We are now prepared to forward a second series of samples to such as desire to compete for the August prize. Answers to this second series must reach us before the 20th of July, and, like the first, must be signed with some fictitious name, or a device, and be accompanied by a sealed envelope containing the real name and address of the contestant, and having the chosen device or cognomen upon the outside.

The first sample was pharmacopœial and contained a common adulterant. Both the pure and adulterated materials are much used in the arts, and are sold by nearly all druggists.

The second sample will be an article on the materia medica list, and contains, also, adulterations to be determined by the contestant.

We believe we are warranted in stating that the College of Pharmacy of the City of New York will shortly offer to its members, and to such other pharmaceutists as may desire to avail themselves thereof, the facilities for verifying and adjusting their measures, balances, and weights, which we suggested in our May number.

We believe that pharmaceutists, as a rule, have shown their willingness to impose upon themselves all the reasonable checks and safeguards which an honest and conscientious administration of their affairs demands; appreciating that success in their business depends mainly upon a reputation for honesty and exactness. The fact that inaccurate weights and measures are extensively supplied to the market is hardly to be charged to them, we think, and we believe that the possession of such instruments by some of them has arisen chiefly from inadvertence and the difficulty which has existed of subjecting such weights and measures to critical examination. The unanimity with which pharmaceutists in this neighborhood will avail themselves of this opportunity will, we believe, prove that their inclination to do what is right requires no legislative stimulus.

Just as we are about going to press, we have news of the destruction by earthquake and eruption of the sea in Peru, of over four hundred thousand quintals (44,800,000 lbs.) of nitre, with almost entire ruin of the works. It is reported that the damage done will be almost irreparable. The shipping of guano from the southern deposits will also be indefinitely suspended, as all the facilities in the way of launches, shutes, wharfs, buildings, water-condensers, etc., have been swept away.

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

◆

The Active Principles of Calabar Bean.

There is scarcely another modern drug which has been subjected to such frequent and exhaustive investigations as the seeds of *Physostigma venenosum;* but at the same time there is a surprising difference of views and theories in regard to its physiological action. All authors are agreed on *one* property of the drug, namely, that of contracting the pupil, but in all other respects they differ widely. Ever since Fraser's classical investigations (1863) it has been customary to regard the Calabar bean as a poison directly paralyzing the spinal cord, and from this view arose its employment as a remedy in tetanus, where it was found (by Watson and others) to be so exceedingly effective that most other previously used remedies were henceforth discarded. But lately statements have been published, in reference to the action of the commercial extract of calabar and of "physostigmin," which would make their usefulness in tetanus appear exceedingly problematical. Rossbach and Nothnagel, for instance, assert that extract of calabar is not a paralyzing but a tetanizing poison, and the latter adds that it resembled strychnia in so far as its paralyzing effect was a secondary symptom depending upon an exhaustion of nerves and muscles by preceding violent convulsions. Martin Damourette thought he had solved the problem by supposing that the drug excited the spinal marrow and paralyzed the peripheral nerves. But such compromises, unsupported by evidence, are inadmissible in exact science, and Rossbach was unable to obtain any paralyzing effects upon the peripheral nerves with Merck's physostigmin. It was left to chemistry to throw light upon these apparent discrepancies. Hitherto it had been supposed that calabar contained only *one* alkaloid, namely, physostigmia, as Hesse called it, or eserina, as Vé and Leven termed it. But, according to the researches of Harnack and Witkowsky, conducted in the pharmacological laboratory at Strassburg, Calabar bean contains *two* alkaloids, one of which entirely resembles strychnia in its effects, while the other produces the previously known central paralysis. The new alkaloid, named by the discoverers *calabarin* (calabaria), differs from physostigmia by its insolubility in ether, and easier solubility in water; it is also soluble in alcohol. A further difference is the fact that the precipitate produced by potassium iodohydrargyrate in calabarin solutions is insoluble in alcohol. The commercial preparations of calabar are, according to the same authorities, mixtures of the two alkaloids in varying proportions, and therefore produce such discordant effects. Whenever physostigmia preponderates, it appears to suppress the effects of calabarin; this fact explains why most investigators merely took notice of the paralyzing effects. On the other hand, there are preparations in the market which scarcely contain any physostigmia at all, as was proved directly by Harnack and Witkowsky in the case of an English specimen. The purest commercial preparation was Duquesnel's eserine, which appears to be absolutely free from calabarin.

Since, therefore, commercial preparations of calabar may contain comparatively large percentages of calabarin, the administration of which is positively injurious and highly dangerous in tetanus, it is desirable to possess a means of control, or to employ preparations which make the presence of the dangerous alkaloid impossible. As the latter is absolutely insoluble in ether, it appears advisable to introduce, in place of the present officinal alcoholic extract of calabar, an ethereal extract, although the same drawback, which Hager points out as inhering to the officinal preparation, is not unlikely to attach to this, namely, a proneness to speedy deterioration. Indeed, physostigmia is very readily decomposed, with formation of Duquesnel's rubeserin, which appears to be formed not only under the influence of alkalies, but even spontaneously, as may be suspected from the change of color observable in old Calabar beans. Duquesnel's eserin has an especial tendency towards this decomposition, according to Harnack and Witkowsky. But rubeserin cannot contaminate the ethereal extract prepared from the beans, since it is insoluble in ether. (*Pharm. Zeit.*, 1877, Nos. 16, 30.)

In No. 21 of the same serial we find a communication by O. Hesse, commenting on the above article, in which he states that he has succeeded in extracting from Calabar beans a substance crystallizing from alcohol in probably the same form as the so-called crystallized eserine, and appearing to be a much more definite and stable substance than the latter. It crystallizes from ether, chloroform, and petroleum-ether in white silky needles, melts at 133–134° C., is indifferent, and greatly resembles cholesterin and iso-cholesterin in appearance, though not in properties or composition. Hesse also adds that the substitution of an ethereal instead of an alcoholic extract would be of but little use, as Calabar beans contain physostigmia in such a combination that it appears insoluble in and incapable of extraction by pure ether.

The well-known manufacturing chemist, E. Merck, in Darmstadt, has heretofore prepared and sold a substance which was supposed to be the only active principle of calabar, and which he called calabarin, but which was really eserine or physostigmin. He now accepts and confirms the results of Harnack's and Witkowsky's researches, and has put both of the active principles upon the market labelled with their correct names, namely, "*physostigmin*" (or eserin, being the same substance which he formerly sold as calabarin), and "*calabarin*," distinguished by the addition of Harnack's name ("Harnack's calabarin"). *The attention of physicians and pharmacists is particularly directed to this change of appellations.*

An Adulteration of Aconite Root.

Mr. E. M. Holmes has a paper on this subject in the *Pharmaceutical Journal and Transactions*, from which we abstract the following:

Aconite root possesses such powerful properties that it is very important that the medicinal article should, as far as possible, be of uniform strength and quality. Yet this is by no means the case, for it is difficult to find in a commercial sample one root in a dozen which, upon fracture, appears sound and in good condition. This is due, according to Hanbury, to its being gathered indiscriminately by peasants, who regard neither the most advantageous time for collection nor the proper species. This is not to be wondered at, considering that the wholesale price is as low as 6d. per pound. As the root is sold by the German peasants to buyers who obtain a profit by supplying wholesale dealers in Germany, and these again have to obtain a profit before its exportation, it is obvious that the price paid the peasants must be too small to pay for careful collection.

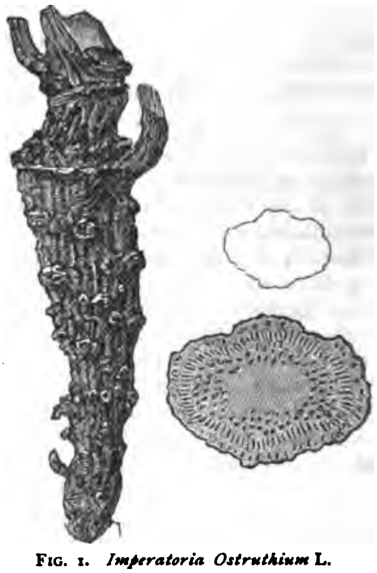


Fig. 1. *Imperatoria Ostruthium* L.

In some districts aconite root is said to be gathered by intelligent herb and root collectors, who are well acquainted with the plants they gather; but what is collected by them is probably retained for home consumption, and the inferior samples exported.

From the cheapness of the root, and from the fact that few roots have the distinctly conical appearance of aconite, it is evident that it would scarcely pay to adulterate it. Adulteration, then, must either result from careless collection, or from accidental admixture.

The root which has lately been found mixed with aconite is that of Masterwort, *Imperatoria*

Ostruthium L., an umbelliferous plant, officinal in the Edinburgh Pharmacopœia so late as 1792. It is a native of mountainous countries, and grows in similar districts to those in which aconite is found. As it is still officinal in the German Pharmacopœia, its accidental occurrence in aconite root from Germany is not surprising. Its value in this country [Great Britain] is double that of aconite root, and it is obvious, therefore, that it has not been purposely used as an adulteration.

In the sample examined the Masterwort root amounted to about 5 per cent.

The characters by which it may be distinguished from aconite root are as follows: The root-stock (Fig. 1), for it is properly so called, is less tapering than aconite root; is slightly compressed, and exhibits several warty zones indicating periods of growth. In some specimens these are much less prominent than in others, but can always be traced. The whole of the root-stock is finely wrinkled transversely, so as to give it a somewhat annulated appearance. The transverse section presents very marked characters. The central portion is of a yellowish-white color, and exhibits a more or less complete ring of brownish dots. The portion next the bark presents elongated dots of a paler color, which give this portion of the section a radiate appearance. With the aid of a lens these dots are seen to be filled with an oily or resinous substance. The cortical portion is very thin. The root-stock has an odor comparable to bruised ivy leaves, or to the plant commonly known as cow parsley (*Chærophyllum sylvestre* L.), and a pungent and slightly bitter taste.

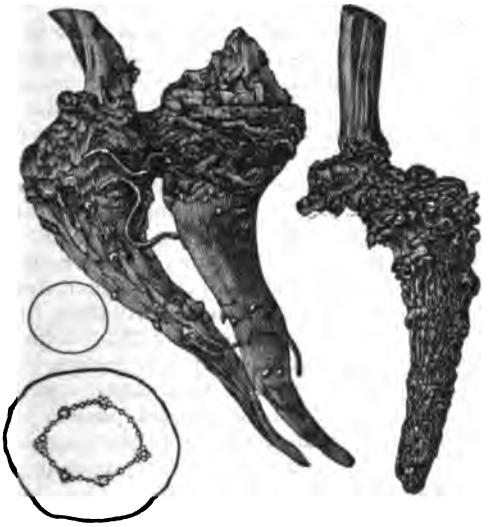


FIG. 2. *Aconitum Napellus* L.

Aconite root is very variable in appearance internally; frequently the centre is quite hollow. Some pieces have a brownish color, others are white and starchy, and a few present a resinous fracture. In a sound root, however, which is usually starchy or slightly resinous, a faint line may generally be traced, which marks out the meditullium. This line has usually five to nine prominent angles (see Fig. 2), the number of angles being larger as the section approaches the top of the root. If the root be wetted and examined with a lens, the line is seen to consist of an irregular line of vessels, which form small bundles in the apices of the projecting angles. The cortical portion occupies nearly half the circumference of the root.

From the above characters it will be observed that the presence of oil receptacles in the Masterwort root at once distinguishes it from aconite. A spirituous tincture of masterwort when dropped into water gives a blue fluorescence resembling that of quinine, and a slight milkiness, and communicates to the water its peculiar odor. By these characters its presence might probably be detected in a mixture containing tincture of aconite.

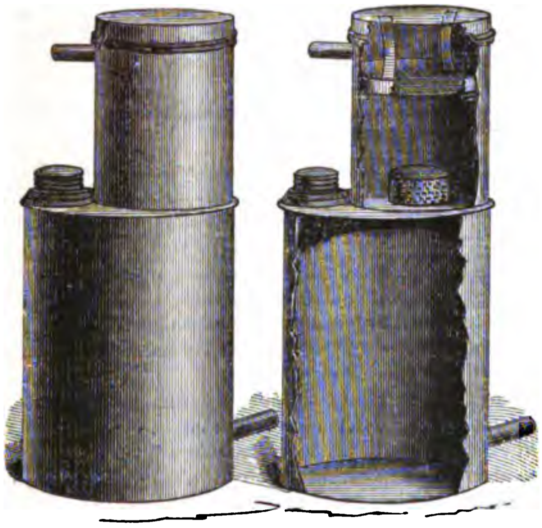
Removal of Strong Odors from the Hands and from Utensils.

THE *Schweizerische Wochenschrift für Pharmacie* (1877, 84) has a communication from F. Schneider, in which he states that ground mustard, mixed with a little water, is an excellent agent for cleansing the hands after handling disagreeably or strongly odorous substances, such as cod-liver oil, musk, valerianic acid and its salts. Scale-pans and vessels may also be readily freed from odor by the same method.

In a succeeding number of the same journal (p. 104), A. Huber states that all oily seeds, when powdered, answer for this purpose. Flaxseed meal, for instance, removes odors as well as mustard. The use of ground almond-cake as a detergent is well known. The explanation of this action is somewhat doubtful, but it is not improbable that the odorous bodies are dissolved by the fatty oil of the seed, and emulsionized by the contact with water. In the case of bitter almonds and mustard, the development of ethereal oil, under the influence of water, may perhaps be an additional help to destroy foreign odors. The author also mentions that the smell of carbolic acid may be removed by rubbing the hands with damp flaxseed meal, and that cod-liver oil bottles may be cleansed with a little hot sesame or olive oil.

Therapeutic Value of Zinc Phosphide.

M. PIERRE VIGIER remarks that much attention has lately been given to phosphide of zinc on account of its value as a stimulant and tonic, and the results of experiments and clinical investigations have been recorded in numerous memoirs. Lecorché believes he has demonstrated that it is absorbed in the form of hydrogen phosphide, but Mialhe is of opinion that the decomposition takes place, not in the intestine, but after its absorption into the blood. MM. Vigier and Dr. Curie have shown that zinc phosphide is a much more certain preparation than phosphoretted oil. The former strongly recommends the zinc phosphide in nervous affections, with excessive excretion of the phosphates and defective nutrition of the brain in spinal irritation, hysteria, and in various forms of paralysis. He observes that it is in use in Ireland as an effective remedy in scrophulosis, and that in England it has been recommended in neuralgia, in paralysis agitans, in sciatica, in collapse, in typhus, and as a tonic in chronic diseases of the nervous system. As a tonic it may be given in doses of ¼ grain per diem, and as a stimulant in somewhat larger quantities for a few days. When thus given it improves the appetite, accelerates the pulse, excites the nerves, and augments the urinary secretion. If the sexual functions are excited the dose has been too large.—*The Practitioner.*



An Improved Water-Filter.

Dr. Alexander Hadden, of New York, has for more than a year had a water-filter of his invention in operation, which is so simple and effective that it is worthy of notice. It is calculated to be used with water supplied in pipes under some pressure, and the filtration is upward. The apparatus from which the adjoining illustration has been made, was the work of an ordinarily intelligent tinsmith, and cost, as nearly as can be remembered, about $1.00. Clear gravel is to be introduced into the lower portion (which holds about a gallon), through an opening in the top, which is afterwards closed by a screw-cap such as is used for kerosene oil cans. The supply-pipe near the bottom is kept clear from gravel by means of a perforated grating. Resting on top of the lower can is a smaller one, holding about a quart, and another perforated grating is securely soldered into the opening between them. On this diaphragm charcoal in small pieces is packed until it reaches a wire ring two-thirds of the way up, and then a removable diaphragm, perforated like the one below, is laid into the ring and serves to keep the charcoal in place. The cover of the smaller can is held in place by a sort of bayonet-catch, similar to the arrangement on some fruit-jars, and has attached to its under surface three projections which are united to a ring of tin, as shown in the illustration, and serve to prevent the upper diaphragm being displaced by the upward current. Near the top of the small can is a spout which gives exit to the water.

The supply-pipe near the bottom of the filter is of a size which admits of its being slipped into one end of a piece of elastic rubber-tubing, while the other extremity of the tubing is attached, in the same manner, to an ordinary water-tap.

When the Croton water was so impure last year, this apparatus proved so effectual that the Doctor's family were supplied with clear and tasteless water, not only for culinary purposes, but in sufficient quantities for laundry and other household work. There is nothing about the apparatus which an ordinary tinsmith cannot make with the materials he commonly has at hand, and with ordinary care it will last for years.

Deductions from Three Hundred and Nineteen Observations of the Action of Chrysarobin—A New Emetic Purge.

Chrysarobin is the name which J. Ashburton Thompson has chosen to designate what is commonly known as Goa powder. After explaining the reasons for the choice of this name and giving Professor Attfield's analysis of the powder (see New Remedies, vol. v., p. 135), he goes on to say: "The large proportion of chrysophanic acid which enters into the constitution of chrysarobin (80 to 84 per cent.) gives some reason for believing that it may be the active principle. The crude powder and the extracted acid have, indeed, the same local irritant effects. Either, kept in contact with the skin, produces irritation, inflammation, and dislocation of the cutis. Either, introduced in minute quantity into the eye, causes conjunctivitis. Further, some other vegetables which contain chrysophanic acid possess active properties which are in some respects similar to those both of chrysarobin and chrysophanic acid. Thus, the common dock contains chrysophanic acid, and the common dock, made into a poultice, or used as an infusion, is well known to be in common use by the country people for the cure of some cutaneous disorders—the same purpose for which Sir James Fayrer introduced chrysarobin to the notice of the profession in 1874. Senna has purgative properties, and without asserting that this power is owing to the chrysophanic acid which senna contains, it may be stated that purgation is one of the properties of chrysophanic acid taken internally. The same may be said of rhubarb, and more too; for rhubarb is a cholagogue, and I believe I have ascertained that chrysophanic acid is a purgative of decidedly cholagogue powers.

. . . .

Chrysophanic acid occurs as a granular powder of fine bright orange color. It possesses neither odor nor taste. It may be crystallized. The resin, as appears from Professor Attfield's analysis, is of two kinds. I used a combination of these two; they form a body of a deep reddish brown color, brittle and shining. The aqueous extract is black. The crude chrysarobin presented the usual appearances, which are well known. These constituents were offered as perfectly isolated from each other.

First Series of Observations.—All that could be proved of chrysarobin was that it would be slightly purgative, for such is the action ascribed by Schroff to chrysophanic acid. All that was known of it was its powerful irritant property shown by its action on the skin and on the conjunctiva. It seemed possible that it might prove an irritant poison. I soon ascertained, by a series of personal experiments, that it possesses no power, in moderate doses, so active as this. On reaching a dose of six grains, I experienced, at the fourth hour, sensations of nausea, accompanied and followed by sensations of disturbance in the bowels—even an abortive attempt at vomiting; then relief from all symptoms; sixteen hours afterwards a loose action of the bowels. The next higher dose was given to my brother, a student of medicine. He dined at seven; at half-past eight he took eight grains of chrysarobin made into a pill with confection of roses; at half-past ten he vomited; he then slept, but at twelve o'clock was roused by another attack of vomiting. The bowels remained unaffected. There was no depression except during the act of vomiting.

Second Series of Observations.—This includes ninety cases—thirty children and sixty adults.

The action of chrysarobin is emetic and purgative. Vomiting is always the first sign of action. This is not attended by any depression at all comparable with that caused by tartar-emetic or ipecacuanha. In the doses presently to be named it has not caused any distressing retching; and in children, as well as in adults, the acts of vomiting varied between none in three out of the whole number, and six, in two out of the whole number. They were usually two or three; very often only one. The action on the bowels was much more variable, from none in a few cases to nine or ten in equally few cases; most often the range was between three and seven. There is no griping pain, but the nausea continues more or less markedly until the bowels recover. The motions are very watery, and of such a brown color as to suggest its origin with the powder taken. If the vomiting be very early, then the purgation, although marked by a fluid stool or stools, will certainly not be violent; and in some cases in which there was no vomiting, the bowels acted very freely. It does not always happen so, however, under the same condition, and I conclude, therefore, that some persons can take a larger dose than others. I cannot distinguish these persons any more than I can accurately gauge the amount of any other purgative which a given person will require at first seeing him. If the dose be taken into a full stomach, that delays its action and determines it to the bowels.

With regard to the dose of chrysarobin, from thirty of these observations which were made on children, I draw the following conclusions: A dose of six grains produces scarcely any effect upon children of twelve, eleven, ten, or nine years. Upon children of eight and six years, the effect is uncertain. Upon children of from five years down to five weeks it is certain to operate; but the time which elapses before its action is manifested may vary between ten minutes and nine, or even twelve hours. The effect of the same quantity is not increased as the age of the child is diminished. (Thus, three children of five weeks, of three years, and of six years respectively were affected by the six-grain dose to precisely the same extent.) I am not able to say upon what this peculiarity depends, but the intervention of sleep delays the manifestation of *any* effect, and was the cause of delay in the two cases in which alone so long intervals as nine and twelve hours elapsed.

For adults, I choose a dose of twenty grains. From sixty observations, I make the following deductions. A scruple is a moderate dose for an adult, operating, except under circumstances to be mentioned presently, with tolerable uniformity. The interval which elapses before it begins to operate may be so long as five hours; but, if the dose be well adapted to the individual, that is quite exceptional; four hours is a pretty frequent interval, but two hours or less is the most common interval. It may be as short as fifteen minutes, but is seldom shorter than thirty.

From these ninety observations, I conclude that chrysarobin is, in a dose of twenty-five grains for adults or of six or more for children, an emetic-purge of which the action is unattended by any inconvenient symptoms; while, on the other hand, it is as certain as other medicines which act in either of those ways, at the same time that the speed and thoroughness with which it operates recommend it for use in most of those cases in which such an effect as it produces is desirable.

Third Series of Observations.—From chrysarobin I pass to the action of chrysophanic acid. Of this body something is known, but not much. It is stated by Schroff to be mildly purgative. It is a constituent of rhubarb, which contains other active principles. It is but very sparingly soluble in most other fluids than benzole; only it is freely soluble in the alkalies, and, in proportion, in alkaline fluids. I shall again refer to this fact in considering the mode of action of the bodies under consideration. The series from which I draw the following conclusions upon the dose and action of chrysophanic acid includes one hundred and sixteen observations upon persons of all ages and both sexes.

The action of chrysophanic acid is similar to the action of chrysarobin, with this difference: that while in a suitable dose each will cause vomiting and purging, if the dose be too small, chrysarobin is most likely to purge only, while chrysophanic acid is most likely to cause vomiting only. For this reason, and from giving too small a dose, I was at first inclined to anticipate that the acid would prove to be a simple emetic. With reference to the details of the amount and kind of action, whether on the bowels or stomach, which the action produces in a single dose, I have not been able to formulate it, and I believe I have acquired evidence enough to say that it is not possible to formulate it. I do not know of any other equally extensive series of observations upon any other given emetic or purge; but I believe that the same statement might be made of any of them, and I make this statement in that sense. A larger full dose, that is to say, from fifteen to twenty grains, will always both vomit and purge the patient very freely, at the same time that it causes an inconvenient amount of either of these effects very rarely indeed. Further, there is but little danger of inconvenience from too large a dose.

The Dose of Chrysophanic Acid.—In this case, as in that of chrysarobin, I observe first of all that, with a quantity which acts well upon a child of five or six years of age, no increase in effect is observed with the same dose upon the very youngest children. Yet further, of chrysophanic acid I am obliged to say what does not hold good of chrysarobin, that on children of less than four or five years its action is uncertain in that it sometimes fails to act entirely, or acts very feebly, or most often of all causes vomiting only. It never acts upon them with unexpected violence. Of course, it will be borne in mind, as before, that it is difficult to insure the perfect administration of powders to babies; and that an attempt to give this powder in water, contrary to instructions, may perhaps have contributed to the uncertainty. I have found that six grains of chrysophanic acid is a good dose for children of ten years and under; and that in that dose it may be depended upon, with the above exception, to operate speedily and effectually. For adults, I find the action of the acid certain in a dose of fifteen grains; upon some adults I have found ten and even eight grains act as often as fifteen grains upon other adults apparently of similar *physique;* and again I have found some, but very few, who demand as much as a scruple for the manifestation of a reasonably brisk action. But I am able to say that that is a large dose, and should not, or rather need not, be given as an initial dose to any person except in case of emergency.

The two hundred and six observations with which I have been dealing were made upon persons who were out of sorts rather than ill, with the exception of the last twenty or thirty. In these (which included cases of various acute diseases), I employed chrysophanic acid to produce what I had then ascertained to be its proper effects. I have, therefore, perhaps lacked the opportunity of observing its specific effects, if it possess any. Of chrysophanic acid I have, however, observed this effect: that whatever the condition of the patient, it causes the evacuation, one way or the other, of large quantities of bile. I have utilized this observation in a few cases of hepatic obstruction—congestive, catarrhal, and the like—with marked advantage to the patient. Rhubarb, it will be remembered, has a distinct power of increasing the amount of excreted bile, and is used, with other cholagogues, for that purpose every-day. Rhubarb also contains some chrysophanic acid; and perhaps it is not going too far to suggest, upon a knowledge of the fact I have just stated, that this power of rhubarb may be owing to that constituent. At least, I consider it worth the trial whether repeated small doses of chrysophanic acid are or are not serviceable in such cases as I have just mentioned, and which are at present a little tedious of cure.

The Resin of Chrysarobin: the Fourth Series of Observations.—I have made ten observations upon adults with the resin of chrysarobin. It was made into pills with a little tragacanth aud glycerine. One grain had no effect upon two individuals. In three cases, three-grain doses caused vomiting from twice to five times, and purging from five to seven times. In one case, two grains were taken by a man aged 20, instead of four, as was intended. In six hours the bowels began to act, and then they acted very loosely three or four times. There was no vomiting, but considerable nausea, which lasted for eighteen hours. In the remaining four cases, four grains were taken for a dose; and this in every case acted within two hours—in one within half an hour—vomiting being the first sign, and purging very quickly ensuing. In three of these cases, the acts of vomiting were three to five; of purging from five to ten. In the fourth, a stout woman, fairly strong and the subject of habitual constipation, the vomiting and purging were continued during five or six hours with very small intervals. She was suffering from neuralgia, which I had traced to the state of the bowels; and it disappeared during this violent action. The sickness, except in the last case, was not said to be attended by much depression. It will thus be seen that the action of the resin of chrysarobin is identical with that of the crude powder, and of chrysophanic acid, but very much more powerful.

Mode of Action of these Bodies.—Are these bodies direct irritants, like mustard or the sulphates of zinc and copper? or concentric irritants, like apomorphia? or eccentric irritants, operating like ipecacuanha, during elimination? With these questions in view, I devised the *fourth series of observations,* including one hundred cases. I shall, for the most part, avoid distinct reference to the indications which they may appear to afford. Such an investigation cannot be completed without many planned experiments upon the lower animals—experiments which I have neither the time nor the opportunity of conducting. The first question which presented itself is: Does chrysophanic acid act as a direct gastric irritant or in a more circuitous manner? Twenty observations were first made upon the modifying effect which a full or empty stomach might have upon the operation of this drug. Owing to the inherent variability of action which this shares with all other medicines of its class, the result was not very satisfactory. I believe I am warranted in making the following statements: That, if a dose of chrysophanic acid be taken and immediately followed by a meal, its action will be considerably delayed; that, if it be taken after a meal, its action will be delayed in proportion (more or less) to the progress which has been made with digestion; that, if it be taken upon an empty stomach, its action is manifested quickly; that there seems reason to believe that fulness of the stomach or the consequent delay in action determines its effects to the bowels, without, in all cases, obviously diminishing its emetic power; but that emptiness of the stomach does determine it rather to emetic action, and does also diminish its purgative action, notwithstanding that, except in the case of babies, the latter is never entirely absent.

Does the food, then, protect the stomach from direct irritation? I made the observations with draughts consisting of ten grains of the acid, fifteen grains of tragacanth gum, and three ounces of water. This forms quite a thick solution of the gum, in which the acid is suspended. So far was this from protecting the stomach, however, that I observed action to begin earlier, to be more violent, and to be more evenly divided between vomiting and purging than after any other mode of administration.

Chrysophanic acid being soluble in alkaline (but not in acid) fluids, I made three observations with draughts composed of ten grains of the acid, fifteen minims of liquor potassæ, and three ounces of water, allowed to digest during three days. Their action was so evident, that I found it impossible to use any more so large doses. I, therefore, made seven other observations on the effect of similar draughts containing only six grains, and I found them to take all the effect which a dose of fifteen grains given as powder takes.

I made sixty observations with pills containing either the acid or the crude powder combined with confection of roses. I confine my remarks to those containing the acid, since I observe no essential difference in action between them. Each pill contained four grains of chrysophanic acid. I find the action of the drug in this form more uniform than in any other, except that of an alkaline draught. Eight grains are sufficient to take with effect in both kinds upon the majority of persons. Action is delayed almost invariably beyond two hours; often if sleep intervene, the dose taken at night does not operate until the next morning. In that case, sickness, as always, is the first effect, but the purging ensues almost immediately.

It appears, then, that to give chrysophanic acid in the form of a pill, whereby its diffusion in the stomach is delayed, or as a partial solution (in an alkaline fluid), enhances its powers; for eight grains in the former case and six grains in the latter seem equivalent in power to fifteen grains given as powder. At the same time, by both of these means its action is rendered more equable, and in both, although chiefly in the latter, delayed. On the other hand, neither increased action nor the greater facility of absorption offered by these means increases depression.

Lastly, I repeat that four grains of the resin (which I do not know to have any irritant power as a topical application) are equal to from fifteen to twenty grains of the acid as measured by its effects. From these three hundred and nineteen observations, I conclude—

1. That chrysophanic acid is an emetic purge; that its action is as certain, when given in appropriate doses, as that of any other drug which acts in either of these ways; that if either kind of action should be wanting, on account of the dose having been too small, it is the purging which will fail to appear; but that is rare.

2. That its action is favored by its exhibition in a manner favorable to its absorption; *i.e.*, by its diffusion in water, by its exhibition as a pill, and, above all, by its combination with a strongly alkaline fluid; that its action may be delayed by sleep and modified by a full stomach.

3. That its dose is, as powder, not less than six grains for babies; at twelve years, one may give ten grains; above that age, fifteen grains, a dose which it is not often necessary to increase. As a simple draught, perhaps ten grains is enough for most adults. As an alkaline draught, six grains is an average dose, if three days have been allowed for digestion and partial solution. As a pill, eight grains is an average dose, six grains often suffice, twelve grains are too much.

4. That the most convenient form for exhibition is, for adults, that of a pill. In children, the powder, which must be mixed with honey or jam, since it cannot be mixed with water; it is tasteless.

5. Lastly, that I see reason to regard chrysophanic acid as a useful addition to our list of remedies, because it affords a means of clearing out the *primæ viæ* with a thoroughness and promptitude not equalled by any other medicine with which I am acquainted, a combination of tartar-emetic and ipecacuanha alone excepted; while it is at once more certain to produce *both* purging and vomiting than that, and is unattended by the serious depression which is often an inseparable objection to its employment; that the power of evacuating large quantities of bile which I claim for chrysophanic acid especially fits it for the purpose named.

Eriodictyon Californicum.

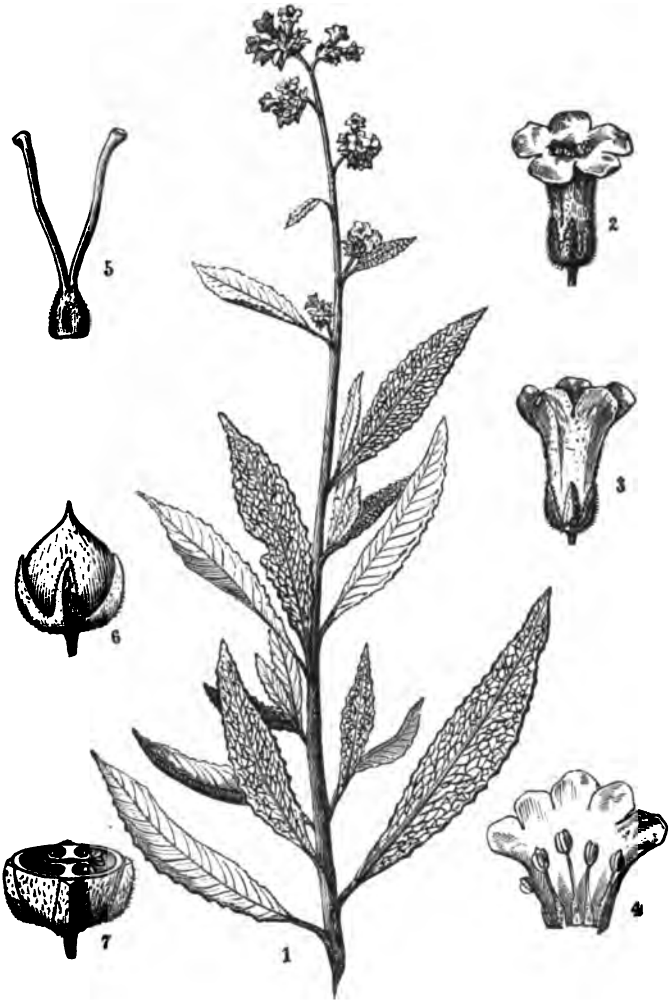
We have already given, on page 136 of our last volume, a description of this new addition to our list of drugs, but owing to the facts that it is now to be had in the market and that an illustration in the last volume of the Proceedings of the Amer. Pharmaceutical Association enables us to show its appearance, we republish some of the facts there mentioned, which, in truth, are about all that can be said regarding it, at present.

The plant grows thriftily among the rocks in

Northern Mexico and Southern and Middle California, and is an evergreen shrub about 4 or 5 feet high. The leaves are leathery but brittle, and present a varnished appearance on their upper surface, as do also the stems, which is owing to the presence of a resinous body that also pervades the plant to the extent of 20 to 30 per cent. The leafy top of this plant is the portion used, and the manner in which they are stuck together by this gummy substance has given the plant the name *E. glutinosum* (Benth.). The taste of the leaves is very like that of the opening buds of the balsam poplar. The flowers (Figs. 2, 3, 4) are a light purplish-blue, five-lobed, style two-cleft, two stamens included, and slightly hairy near the base. The ripe fruit (Figs. 6, 7) consists of a one-celled, grayish-brown, ovoid capsule, with calyx still attached. The capsule is saturated with an oil or resin, giving it a translucent appearance.

Among the Indians and Spaniards the plant has long been used in lung affections, and by them has been called the "consumptive's weed." Its other names are Yerba Santa (by which it is called in the trade), mountain balm, and bear's weed. The natives are said to make an aqueous decoction as a general tonic and a decoction with whiskey for chronic lung diseases and as a local application for piles.

According to H. S. Wellcome[*] macerating the leaves for an hour in strong alcohol gives an amber-colored resin, which is transparent and highly aromatic. Continued maceration gives another resin, dark-green in color and bitter in taste. An aqueous infusion of the dregs yields an intensely bitter extract.



Eriodictyon Californicum (Benth).

A tincture made with 75% alcohol in the proportion of 4 ounces to the pint may be given in doses of one to two fluid drachms. A syrup of the resin is made by trituration with powdered talc and following the process for making officinal Tolu syrup. Such a syrup has a delicious fruity odor and taste resembling the pine-apple. A fluid extract, it is said, may also be prepared, but the formula is not given.

Milk as a Diuretic.

Prof. Lee says that in anasarca the effusion disappears rapidly under the influence of a milk diet, while ascites is not affected by it. This is because ascites is dependent on some affection of the liver, or else the serous membrane which allows the liquids to transude is more or less affected in its texture. This holds equally true as regards hydrothorax, because the amount of fibrine renders the fluid difficult of absorption, and furthermore, the pleura is often diseased. The same may be said of pleurisy, excepting, perhaps, when the disease is quite recent. But in general dropsy, milk taken in doses of one-half to three litres during the day, is a most efficient diuretic.

A Convenient Mode of Dispensing Ointments.

Some years since an English pharmacist proposed that the metal tubes used to hold painters' colors might be used with advantage for dispensing cerates and ointments. In 1874 M. Jacques de May, a Parisian pharmacist, adopted the suggestion, and quite recently Dr. Arthur van Harlingen, of Philadelphia, has introduced their use in this country (*Medical Times* of April 14). These soft metal tubes can be supplied of any size, and being filled through the lower open end, the edges are pinched and folded together, making a perfectly tight joint. By unscrewing the metal cap and pinching the tube, the desired quantity of ointment is made to exude, while the balance is completely protected from contact with the air and consequent rancidity.

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[*] *The Pharmacist*, Feb., 1876.

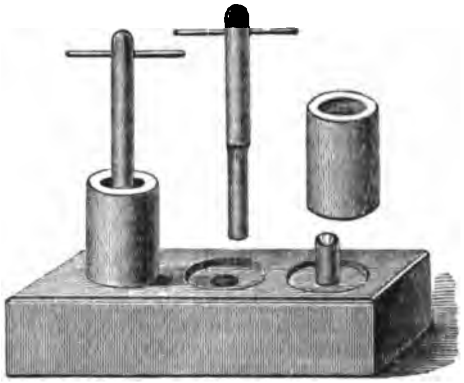
French Lactucarium.

THE principal, if not the sole producer of lactucarium in France, is Mr. Aubergier, of Clermond-Ferrand in Auvergne, Department Puy-de-Dôme, whose researches on the chemistry and therapeutics of this drug are well known to pharmacists. His first experiments, which were made previous to 1841, were chiefly directed to the selection of the proper variety of lettuce, so as to obtain the largest possible yield of lactucarium. As a result of his investigations he began the cultivation of *Lactuca altissima* Bieb., a native of the Caucasus, which is a gigantic herb (hence called *laitue gigantesque*), having, when cultivated, a height of 9 feet, and a stem 1½ inches in diameter.* The manner of collecting the juice differs from that pursued in Germany or Scotland; instead of cutting off the stem near the top, and removing successive slices every day, transverse incisions are daily made at the time of flowering, into the stem from above downward, and the juice which flows from them is collected in a glass vessel. By the time this is full, the juice has coagulated and is removed, after which it is shaped into circular cakes of 1½ inches in diameter, which are dried by exposure to the air upon sieves.

While it was found, in the commencement of the enterprise, that one person could collect at most 60 grammes of the juice per day, Mr. Aubergier has succeeded in training his employés—and he employs only women for this purpose—so well, that the mean daily quantity collected by one person now amounts to about 600 grammes (about 1 lb. 5 oz.), while some very active workers occasionally gather as much as one kilogramme. This activity and skill is stimulated by premiums, which are given for any quantity returned above 300 grammes, and further by a sort of co-operative partnership, the most expert workers receiving at the end of the season some extra gratuities proportionate with the total yield. Dry seasons are very unfavorable to a large yield; and in order to be able to supply the demand, Mr. Aubergier takes advantage of moist seasons to lay in a large supply, sufficient to last for several years ahead.—*La Ruche Pharm.*, 1877, 21.

Pitury: an Australian Rival to Coca.

BARON VON MUELLER, of Melbourne, has at length determined the botanical source of the "Pitury," a stimulant long known to be in use by the aborigines of Central Australia and said to be of marvellous power. After some years of efforts to obtain a specimen of the plant, he has now received some leaves, and has with certainty determined them to belong to *Duboisia Hopwoodii* F. Muell., a bush referred to the orders Solanaceæ, or Scrophulariaceæ, which grows sparingly in the desert scrubs from the Darling River and Barcoo to West Australia. In a recent communication to the *Australian Medical Journal*, Baron von Mueller states, that the natives chew the leaves to invigorate them during their long foot-journeys through the deserts, just as coca leaves are used in South America. Those living near the Barcoo travel many days' journey to obtain the precious foliage, which is broken into small fragments, and carried about by them in little bags. It is also employed to excite courage in warfare.—*Pharm. J. and Trans.*



A Simple Pill-Press.

SUCH of our readers as are mechanically inclined and have need for a pill-press can find a good model in the one contrived by Professor Remington and which we here illustrate. This machine is constructed to make two sizes of pills, viz.: two- and three-grain pills, on one end and four- and five-grain pills on the other. The base is of cast-steel and the cylinders have funnel-shaped openings which facilitate the introduction of the powder of which the pill is to be composed. The countersunk depression in the base prevents slipping of the cylinder under the effects of a side blow. The centre depression has an opening through which the shaped pill can be pushed after it has been formed. In all cases the powder should be slightly damp, to prevent the pills splitting transversely and to keep the powder from being blown out at the top of the cylinder as the blow is struck.—*Proc. Amer. Pharm. Assoc.*

Atropia in Forensic Medicine.

DR. A. RABUTEAU calls attention to the well-known fact that large doses of morphia (0.2 gm. morph. muriat.) may be injected into the jugulars of dogs with impunity, whereas very small doses of thebaia, to which man shows a greater tolerance, are fatal to dogs.

A still more remarkable fact, equally well established, is the immunity of rabbits and Guinea pigs against atropia, of which 0.5 grammes injected subcutaneously barely suffice to produce midriasis, injections of the vessels of the ear, acceleration of the pulse, and slight diarrhœa. A heavy Guinea pig, weighing 540 grammes, received with immunity 0.2 atropia in 2 ctm. water subcutaneously, while even 0.005 atropia, hypodermically, in man produced grave toxic effects. A tolerance in man corresponding in weight to the Guinea pig should be 24 grammes.

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* Prof. G. Planchon believes it to be a mere variety of *Lactuca Scariola* L. See *Pharmacographia*, p. 354.

These results from the most accurate experiments are of the highest importance in forensic attempts to establish the nature of poisons isolated from the cadaver of man injected into the bodies of animals. As in the rodents mentioned, midriasis ensues only after enormous doses; even if instilled into the eye it will be easily seen that the small quantities isolated from dead bodies will rarely suffice to produce the expected result in rabbits. If Tardieu's method of utilizing rabbits in this way be relied upon, we should often be led astray. The carnivorous animals should alone be used for atropia, especially dogs, as they, of all animals, show most plainly, from minimal doses, its well known effects upon the pupil.—*Cincin. Lancet and Observer.*

Peas Colored by Copper.

At a recent meeting of the Academy of Sciences, in Paris, M. Galippe gave the results of his examination of peas made artificially green by means of copper, of which much has lately been said. After careful chemical analysis performed on ten tins of peas of different brands, he came to the conclusion that, presuming a tin of peas would be consumed by four persons, each of these would ingest about fourteen *milligrammes* (about a quarter of a grain) of a compound of copper. He observes that such a quantity, even of sulphate of copper, could not be injurious, but that in these preserved peas sulphate of copper does not retain its usual characteristics; it has no unpleasant flavor, is very slightly soluble, and in fact is an inert body. If the nature of the copper-compound be not yet quite determined, the conditions under which it is produced are well known. To produce it, it is necessary that the peas should be thrown into the mixture intended to preserve their natural color in the freshest possible state. A sudden change of temperature or a storm may prevent the fixing of the coloring matter, so that the very greenness of the preserved peas is in some sort a guaranty of their good quality. M. Galippe has experimented on his own person, by consuming these peas daily for ten days, without having experienced any other inconvenience from them than the monotony of seeing the same dish make its appearance so frequently. He also says that he is acquainted with many scientific persons who habitually use these preserved peas as an article of diet, without experiencing any ill-effects from so doing. He also says that in the manufactories where these peas are put up, when a tin is badly soldered, it is given to the workmen, so that some of them make entire meals of these vegetables without suffering in the least. M. Galippe is, therefore, of opinion that these preserved peas contain too small a quantity of copper to be injurious to the public health; he is further convinced that this quantity might be further diminished if the manufacturers were to come to a mutual understanding as to the quantity of copper strictly necessary to give the peas the requisite green color, without varying from it either to a greater or less extent.

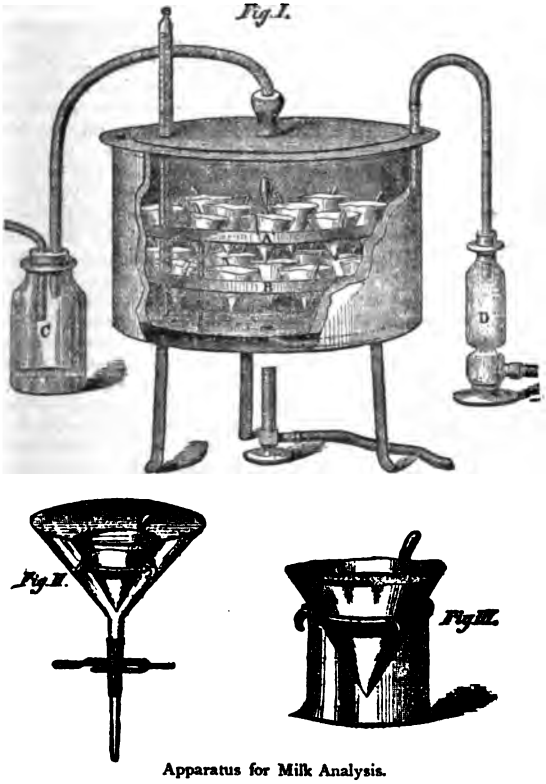
Milk Analysis.

E. H. von Baumhauer read a paper on milk analysis at the Buffalo meeting of the American Association for the Advancement of Science, in which the following method and apparatus was recommended: A disk of copper, standing on feet 10 cm. in height (Fig. 1), is pierced with 10, 12, or a larger number of round holes, having a diameter of 5 cm., and placed at regular distances. In these holes are hung rings, 4 cm. in diameter, made of glass rods, and having little curved arms of glass. In each of these rings is placed a filter-paper, folded in quarters, and filled with sand up to ½ cm. of the edge. Each filter, before folding, is to be 10 to 12 cm. in diameter, and the sand is to be prepared by selecting that which is white and clean; digest it with hydrochloric acid, wash well with distilled water until the latter yields no trace of acid, then dry the sand, ignite it in a Hessian crucible, and while still red hot pour the contents from a height upon a clean stone, in order that the carbonized organic matter may be burned while falling through the air. It may then be preserved for use in well-corked, clean bottles. The filter-paper must also be prepared by washing with hydrochloric acid and water, dried in a rising temperature up to 110° C., and preserved in a rubber-stoppered bottle.

Near each hole in the disk a number should be scratched, and in its centre a wooden handle is inserted by which to raise it. The heating apparatus consists of a copper bath with double walls, between which is placed paraffine. A tube connecting with a close-fitting cover communicates with a Woulfe bottle (*C*) in which the watery vapor is condensed, and which is connected with a strong aspirator. The cover and disks also give passage to a thermometer, as shown in the cut. A copper tube, after following a tortuous course between the walls of the bath, terminates at one end in the middle of the air-bath, and at the other is connected at the close of the operation with the calcium chloride or sulphuric acid apparatus *D*.

As many glass flasks and funnels are required as there are analyses to be made; the capacity of each flask being 100 c.c., and indicated by a mark on its neck. The funnels (Fig. 2) have their edges ground, and are covered with watch-glasses. All these are numbered. The funnels are of such size that the filters hang free when placed on the rings (as in Fig. 2). To the stem of each funnel is connected a caoutchouc tube, closed with a spring clamp. Finally an equal number of beaker glasses are used as "desiccators" by placing in them triangles upon which the filter-rings can rest. At the bottom of the glass is placed calcium chloride, and the whole is covered with a hood of India-rubber.

Having filled the filters with sand, they are placed on the support and heated for ½ an hour at 110° C.; after cooling them in the desiccators they are weighed, a beaker from which the bottom has been cut (Fig. 3) serving to support them during this operation. Then 10 c.c. of milk, at a temperature of 15° C. are, by means of pipettes, placed in each filter, care being taken to moisten the sand evenly, save the exterior edge. When all are charged the support is placed in the air-bath, and their temperature raised to 60° or 70° Cent., which heat is maintained so long as moisture is deposited in the Woulfe bottle. The aspiration is then moderated, and the air, previously dried, is passed through the apparatus, which is then heated to 105° C. for a full half hour. The desiccation consumes 4 to 5 hours, the only need for care being to examine the thermometer. The filters are then left to cool for an hour in the receivers and weighed again, and the difference between the weighings gives the sum of fixed constituents of the milk.



Apparatus for Milk Analysis.

If the point of the filter drips before 10 c.c. of milk have been absorbed by the sand, it indicates an adulteration with water. In this case another filter must be used, and the addition made in portions as the drying goes on.

To determine the proportion of fat, the filters with contents are placed in the funnels, filled with anhydrous ether, and left standing half an hour. The ether is then drawn off and the operation repeated until the ether runs limpid. After drying, the loss in weight will then indicate the proportion of fat.

To determine the sugar the same course is pursued, warm water being used instead of ether, and the water is collected in the flasks before mentioned. After being cooled to 15° C., and diluted to 100 c.c., the sugar in solution is estimated by Mulder's test.

Preparation of Pure Nitrogen.

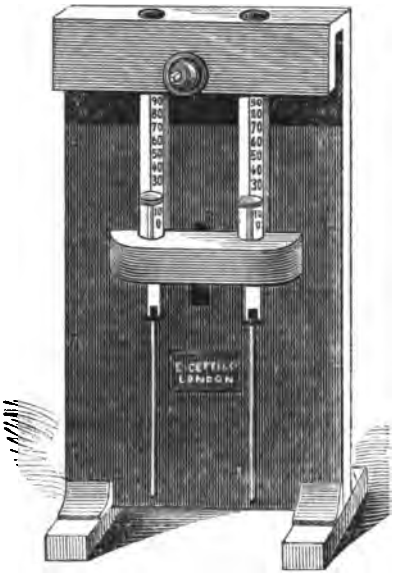
It is well known, that the continuous preparation of nitrogen by passing a stream of atmospheric air over heated copper turnings, is interrupted, as soon as the latter has been covered with a thick layer of oxide. To obviate this difficulty, S. Lupton proposes to pass the air previously through strong water of ammonia. The ammoniacal gas, which accompanies the air, reduces the cupric oxide at the moment of its formation and its nitrogen joins that of the air. The copper, therefore, is not diminished or consumed, and the process is simply as follows:

$$6N_2+3O_2+4NH_3 = 6H_2O+8N_2.$$

The resulting nitrogen is so pure, that melted potassium remains untarnished therein.—*Zeit. Oest. Ap. Ver.* fr. *Chem. News.*

Mode of Action of Potassium Iodide.

Dr. Kämmerer explains the medicinal action of this salt by referring to its decomposition by the action of ozonized oxygen, and by carbonic acid gas. In solutions of potassium iodide, ozone causes separation of free iodine; and when in dilute aqueous solution, the pressure of carbonic acid gas breaks up the salt into hydrogen iodide (hydriodic acid) and potassium bicarbonate, but the free hydriodic acid is readily decomposed by free oxygen, even when not ozonized into iodine and water. Mon-iodide of potassium, when introduced into the stomach, is absorbed directly into the blood. Here it meets with a large quantity of carbonic acid gas at a high pressure, and is decomposed into hydriodic acid and potassium bicarbonate, and the former is then immediately split up by the oxygen in the blood into free iodine and water. And even if the decomposition of the iodide by the carbonic acid does not take place, the oxygen in the blood, which closely resembles ozone in its properties, is capable of setting the iodine free. This free iodine does not act upon the inorganic constituents of the blood, since, on the others—between potassium phosphate and iodine—a reaction may take place, leading to the formation of an inferior oxide of iodine (subiodic acid), which last is reducible with extreme facility, and consequently effects rapid combustion of organic material, free iodine being at the same time set free, which again becomes converted into hydriodic acid to undergo the same series of changes. The action of iodide of potassium in augmenting the temperature of the blood and causing emaciation, Dr. Kämmerer considers to be fully explained by the action of the drug in increasing the combustive operations in the blood.—*The Practitioner*, from the *Med. Chir. Rundschau.*



Apparatus for Comparing Depth of Color.

DR. E. J. MILLS, of the Andersonian University of Glasgow, has constructed an apparatus for estimating the relative proportions of color or tint in different samples of liquids. From the accompanying cut it will be seen that it consists of two graduated tubes, drawn out below, and corked with perforated corks. Through these corks are passed two glass rods, carrying at their upper ends two flat disks of opal glass, like pistons, which fit loosely into the tubes, so as to allow the liquid to pass the pistons. To use the apparatus the tubes are filled with the solutions to be compared, and the piston of the tube containing the standard solution is set at zero, while the piston of the other tube is then moved up or down, until, on looking down into the tubes from the top to the opal disks, the two solutions appear indentical in color. The position of the piston is then read off, and indicates the relative amount of color in the liquid. The apparatus is said to be extremely well adapted for nesslerizing, and for the taking of colors of sugar syrups, and will certainly enable such estimations to be made with increased accuracy. Messrs Cetti & Co., of Brooke Street, Holborn, London, are the manufacturers.—*The Analyst*, No. 11, p. 201.

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The Degree of Doctor of Pharmacy has been legally established in Holland since April 3, 1876, and a special chair on Pharmacy has been established at the Dutch Universities.

RECENT PAPERS.

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Pharmaceutical Journal and Transactions. Nos 351–355.

E. M. HOLMES: "An Adulteration of Aconite Root." [Reporting the admixture to genuine aconite, of the root of *Imperatoria Ostruthium*, masterwort. The author also strongly advocates the cultivation of aconite in England, so as to improve the quality of the commercial drug. See p. 164.]

M. HERINCQ: "Silphion of the Ancients, and its Alleged Modern Representative." [An abstract of the author's pamphlet on this subject, in which he shows almost conclusively that the *Silphium Cyrenaicum* of Laval (or *Thapsium Silvium* of Viviani) is really identical with *Thapsia garganica* D.C. This Silphium, it will be recollected, forms at present the basis of a largely-advertised panacea for lung diseases. See NEW REM., v., 275, 362.]

J. C. THRESH: "Glycerinum Tragacanthæ" [Describing a series of experiments made with this excipient upon various pill-masses. The Glycerate of Tragacanth is made by mixing 3 drachms of powdered tragacanth intimately with 6 drachms of glycerine, and adding 6 drachms of water. The mixture becomes almost transparent and very tenacious after a few days. Or it may be prepared by heating the ingredients on a water-bath, when the change takes place at once. While it was found, however, to answer well in such cases as Pil. Coloc. Co., Pil. Gambog. Co., Pil. Rhei Co., etc., it failed to produce good results in other cases.]

EDITOR'S REVIEW OF THE MONTH: "In the course of this paper, mention is made of large quantities of *Barbadoes* and *Curaçao aloes* having reached the London market, the latter kind being rather scarce. It has much the appearance of Barbadoes aloes, but is rather more glossy and has a different and somewhat sulphurous odor. *Sarsaparilla* has also appeared in very large quantities. Besides these are noticed *Carnauba wax; Cocum butter*, a concrete oil from the seeds of *Garcinia purpurea* Roxb., officinal in the Indian Pharmacopœia, and used as a basis for ointments; *Ceylon cardamoms*, a long, gray-tinted variety; *China cantharides* (*Mylabris Cichorii* and *M. phalerata*), which contain more cantharidin than the Spanish fly; *Gum acaroides*, a resin which does not seem to have been turned to as much account as it is capable of It is the product of one of the grass-trees of Australia, and contains a quantity of cinnamic acid, and an oil which has the odor of hyacinths—probably styrol. *Japanese aconite* has also been offered in larger quantities. A curious specimen of *Balsam of Tolu*, which was evidently a fictitious article, has lately been met with. It yielded no crystals of cinnamic acid, dissolved in benzole and carbon disulphide, also in alcohol by heat, a portion separating on cooling. It had an odor like that of boiling syrup or molasses, and an extremely tenacious consistence.]

B. S. PROCTOR: "Medicine Measures." [Proposes to dispense with each prescription a cheap medicine measure for the exact administration of the dose. At the same time he recommends that physicians should so word their directions as to do away with the indefinite terms, "teaspoonful," "tablespoonful," etc., and to use instead the fluid-ounce and its subdivisions.]

W. WILLMOTT: "Glycerole of Nitrate of Bismuth." [Giving further information on this new preparation. A mixture of glycerine and water, containing only 15 per cent. of the former, is able to dissolve double its own weight of bismuth nitrate, so that the glycerine in this thin or attenuated condition dissolves no less than from 12 to 14 times its own weight of the *crystals* of bismuth nitrate. In this proportion the bismuth is subsequently thrown down, and a gas resembling one of the lower oxides of nitrogen is disengaged. Contrary to what might be expected, the solvent action of the glycerine increases until in glycerine itself, in its pure and undiluted form, weight for weight dissolves only with difficulty and after some considerable time.]

B. H. PAUL: "Examination of some Commercial Samples of Citrate of Iron and Quinine." (See p. 137.)

W. G. Piper: "The Presence of Ammonia in Bismuth Subnitrate." [The author's attention having been called to the evolution of ammoniacal gas from a mixture containing bismuth subnitrate, sodium bicarbonate and borax, he found on investigation: 1. That the ammonia was evolved from the bismuth salt; 2. That it was present in most samples of that salt to a very small but variable extent; 3. That the ammonia was formed during the action of the bismuth on the nitric acid.]

A. W. Postans: "Glycerole of Salicin and Glycerole of Pepsine and Salicin." [Stating that a permanent solution, with the aid of heat, may be made, containing 5 grains of salicin in a fluid drachm of glycerine. The second preparation is made by digesting for a week the fresh, finely-cut, and previously well-cleansed stomach of the pig in as much glycerine as will cover it. One drachm of this mixed with 1 ounce of water acidulated with 15 min. of hydrochloric acid dissolve 700 grains of moist fibrin at 100° F. Equal parts of this solution and the glycerole of salicin are mixed, forming a solution possessing tonic and digestive properties in a high degree.]

The Chemist and Druggist.

April. M. Herland: "New Method of Extracting Iodine from Kelp" (from *Comptes Rend.*). See next number.

American Journal of Pharmacy.

May. A. B. Taylor: "The Pharmacopœia of the United States and the American Medical Association." [This is a reply to Dr. E. R. Squibb's proposition of modifying the plan of the revision of the next U. S. Pharm. The paper does not admit of condensation, and we would here merely call attention to it.]

G. W. Kennedy: "Elixir Glycyrrhizæ." [Proposing the following formula: Take 2 troy oz. of liquorice-root in moderately coarse powder, moisten the powder with sufficient of a mixture of 6 fl. oz. each of stronger alcohol and water, allow it to stand 12 hours, pack in a conical percolator, and pour on the balance of alcoholic mixture; follow this with dilute alcohol, until 12 fl. ozs. of percolate have passed. To this add 4 fl. oz. of syrup, and finally 1½ fl. drachm of orange (1 : 15) and 8 min. of essence of cinnamon (1 : 15).]

Jos. P. Remington: "Aromatic Elixir of Licorice." (See Presc. & Form.)

Thos. S. Wiegand: "Basham's Mixture and Haller's Elixir." (See Presc. & Form.).

The Analyst. Nos. 10–13.

E. Francis: "On Prussic Acid from Cassava." [Two species of Cassava or manioc are generally known; one of these is *Manihot utilissima*, or Bitter Cassava, the source of tapioca, which in the fresh state is poisonous, owing to the presence of hydrocyanic acid; the other is *Manihot Aïpi*, or Sweet Cassava, which is considered harmless and directly used as food. The author has examined both species and determined the presence of the acid *in both.* The average quantity obtained from the bitter cassava was 1.927 grains per lb.; that obtained from the sweet was 1.175 grains per lb. of fresh root.

A. W. Blyth: "The Poison of the Cobra di Capello." [Announcing the presence therein of a highly poisonous crystallizable acid, named by the author *cobric acid*, which may be obtained by sublimation from the dried poison, or by throwing it down with lead acetate and separating in the usual manner, or by exhaustion with ether. The average amount of cobra poison which is present in the fang of a snake is 6 grains, containing 2 grains of solid matter, of which 0.6 grains are cobric acid.]

Canadian Pharmaceutical Journal.

April. Monad: "On the Spontaneous Alteration of Anhydrous Hydrocyanic Acid." [Stating that the cause of the speedy decomposition is the alkalinity of the calcium chloride used in drying it. If neutral calcium chloride, however, is used, which may be obtained by evaporating its slightly acid solution and stopping as soon as dryness is reached, anhydrous hydrocyanic acid may be prepared, which can be kept indefinitely. The theory is that calcium cyanide, which the acid forms with any free lime in the calcium chloride, is decomposed by water into calcium formiate and ammonia, the presence of which latter is known as determining the speedy alteration of the anhydrous acid. Heating the pure acid in a sealed tube, for four or five hours, at 100° C., also produces its decomposition.]

Archiv der Pharmacie.

March. F. A. Flückiger: "On the Polarization of Ethereal Oils." [Showing that practical pharmacy can gain but little, directly, from the determination of the rotary power of essential oils on polarized light, since there are so many varying constituents, even in pure oils; the total rotary power of any one specimen of oil being the resultant of the individual powers of all the constituents.]

E. Mylius: "On the Artificial Oil of Mustard of Commerce" [The author has examined two samples of this and found it to contain in 1,000 parts: 0.2 of hydrocyanic acid; 8 of carbon disulphide, 922 of allyl mustard oil, 40 of polysulphides, probably allyl trisulphide; 30 of sulphuretted nitrogenized bodies. He states that the commercial oil, on distillation, yielded him about 90 per cent. of colorless oil of mustard of pure odor, while the other 10 per cent. of impurities made it unfit for pharmaceutical purposes. He therefore recommends to manufacturers to rectify their crude oil before putting it on the market. The author also states that manufacturers are not likely to prepare the artificial oil in the manner which Hager quotes in his *Commentar zur Pharmacopoea Germ.*, from potassium sulphocyanide and iodide of allyl; but that they probably start from allyl alcohol, making an allyl-sulphate, and distil a dry mixture of this with potassium sulphocyanide.]

Th. Huseman: "Studies on some less known Poisons." [Showing that the statements of older authors in respect to the toxic effects of large or long-continued doses of ammonium chloride (muriate of ammonia) are well founded. Indeed, all ammoniacal salts are poisonous in certain doses, chiefly the empyreumatic carbonate (irrespective of its causticity, which acts only topically), the bromide and sulphate. Organic compound ammonias, such as propylamine and trimethylamine, also act toxically. These effects are naturally more easily induced by subcutaneous injection (into the veins) than when administered internally. See the original.]

D. J. Nessler: "On the Preparation and Preservation of Medicinal Wines." [Experience has taught wine producers to keep the bottles containing wine not upright, but lying upon their side, so as to prevent the access of air to their contents. The effect of air consists, according to Pasteur, in the formation either of *Mycoderma vini*, or of *Mycoderma aceti*. In presence of the former the wine is converted into carbonic acid and water; in presence of the latter into acetic acid and water. According to the author's investigations the first-mentioned cryptogam makes its appearance generally in wine containing less than 11 per cent. alcohol, while the second kind is mostly developed in stronger wines, such as madeira or sherry. To prevent the spoiling of medicinal wines, especially wine of pepsine, or wine of cinchona, it is absolutely necessary to fill the flasks full, to cork them well, and to exclude the air perfectly, which is best done by laying them upon their side.]

Berichte d. Deutsch. Chem. Gesellschaft. 1877. Nos. 1–7.

Ferd. Tiemann and Benno Mendelsohn: "On the Constituents of Beachwood-tar Creasote." [The portion boiling at 220° C. of the acid oils of this creasote consists mainly of creasol (or creosol; not identical with cresol) and of phlorol; the former consists of $C_8H_{10}O_2$; the latter of $C_8H_{10}O$.]

Br. Radziszewski: "On the Phosphorescence of Lophin." [Lophin or pyrobenzoline is a product of the dry distillation of hydrobenzamide, which is itself produced by the action of ammonia on pure bitter almond oil. If a few centigrammes of lophin be covered in a test-tube with concentrated alcoholic soda or potassa solution, a *soft white light* makes its appearance, which becomes more intense on heating, and is very persistent. In presence of greater quantities, the light produced is so strong that surrounding objects may be recognized. The finest effect is produced by shaking together filtered alcoholic solutions of potassa and of lophin. In a subsequent paper, the author mentions some other substances, which offer the same phenomena under like circumstances, namely, paraaldehyd, metaaldehyd, aldehydammonia, furfurin, hydranisamid, anisidin, etc. All these bodies are aldehydes or products of aldehydes. This led the author to investigate formaldehyde and glucose, in order to determine whether these are also phosphorescent, being also aldehydes. In the case of formaldehyd, this was proved at once; and the author suspects that the phosphorescence of the glow-worm (*Noctiluca milicris*) is owing to the presence of the aldehyde of formic acid. Glucose shows the phosphorescence best by passing a stream of oxygen through a hot alcoholic solution of glucose and potassa.]

Ernst Schmidt: "On some Constituents of Cubebs."—[Asserting the correctness of his formula for cubeb-stearopten (a camphor-like compound, which separates from the ethereal oil), namely, $C_{18}H_{24},H_2O$. The author has also reëxamined the constitution of cubebin, which is a crystalline resin, produced by oxidation from oil of cubebs, and which is formed thus: $2C_{18}H_{24}$ (oil of cubebs)$+9O_2=9H_2O+C_{30}H_{30}O_9$ (cubebin).]

Same: "On Bromoform."—[The author has redetermined the spec. grav. of pure bromoform, boiling at 149–150°, and finds it to be 2.775 at 14.5° C.]

Same: "On Morphia Hydrobromate and Hydriodate."—[According to Pelletier, the hydriodate, produced by solution of morphia in hydriodic acid, forms a white silky salt, tolerably soluble in water; but, according to Winkler, who prepared it from morphia acetate and potassium iodide, it is scarcely soluble in water. The author has prepared it by both processes, and finds it to crystallize, in each case, in long silky needles, grouped as rosettes, of the composition $C_{17}H_{19}NO_3HI,2H_2O$. The hydrobromate may be prepared in the same manner, crystallizes in white needles. grouped in bunches, and consists of $C_{17}H_{19}NO_3HBr,2H_2O$.]

Rob. Müncke: "Gas and Blast Lamps." (See July No.)

Same: "A Double Aspirator." (See July No.)

The New York Medical Journal.

June. A. E. Knecht: "Woorara in Tetanus." [A translation by B. A. Watson, of a paper by Knecht, in *Schmidt's Jahrbücher*, which gives the details of the fifteen recorded cases treated wholly or in part by this agent.]

George B. Fowler: "On a New and Simple Method for the Quantitative Estimate of Urea." [See July No.]

Cincinnati Lancet and Observer.

March. Fordyce Grinnell: "Quiniaphobia." [The personal experience and views of a surgeon to the Wichita Indian Agency with regard to the value of the remedy.]

S. H. Collins: "The Effects of Salicylic Acid in Six Cases of Acute Rheumatism."

British Medical Journal. Nos. 852–855.

March 10. Samuel McBean: "Erythroxylon Coca in the Treatment of Typhus and Typhoid Fevers, and also of other Febrile Affections." [Believes that the remedy may arrest the rapid metamorphosis of tissue change which occurs in this class of affections, and reports three cases.]

William Squire: "Use of Salicylate of Soda." [Reports a case to show that in rheumatic fever the value of the remedy is not confined to the period of greatest pyrexia.]

W. Thomson: "The Treatment of Intermittent or Fen Fever by Salicine." [The success which attended the use by him of full doses of salicine leads him to think that the failure of the old-fashioned decoction of willow-bark, both in the hands of inhabitants in the marshy districts, and of the medical men, was from the want of concentration, or the inability to prescribe a sufficiently large dose of the specific drug.]

John Cavafy: "Failure of Salicine, and Success of Cold Packing in a Case of Hyperpyrexia." [Comments on a case reported under this heading in the *Journal* of April 14th, and cites case to show that hyperpyrexia may be recovered from under foods and stimulants only.]

A. D. Keith: "Treatment of Psoriasis by Goa-Powder." [Reports a case where the success was "marvellous." A man in good circumstances and sixty-three years old, had psoriasis for a number of years, and was entirely cured by the use of less than four ounces of goa-powder of the strength of ninety grains to the ounce of lard. See also July No.]

George Johnson (p. 607): "Another Case of Poisoning by the So-called 'Homœopathic Solution of Camphor.'" [Seven doses of three drops each, taken by a young man aged 18, were followed by an epileptic fit, something neither he nor his family had ever suffered from.]

J. Ashburton Thompson (p. 607): "Deductions from Three Hundred and Nineteen Observations of Chrysarobin." (See p. 166.)

J. Ivory Murray (p. 609): "On a New Remedy in Certain Forms of Skin-Disease." [Called by the Chinese *Tong Pang Chong*, of which a fluid extract is curative in cases of tinea and eczema as a local application. Mr. Hooker, of the Kew Museum, says the root is the product of a Berberidaceous plant, and nearly identical with *Akebia quinata* (Decaisne), and Mr. John Thomson has extracted a crystalline substance. Applied by painting the affected part with a camel's-hair pencil at bed-time. For sale by Mr. Edwards, 38 Old Change, London.]

A. W. M. Robson (p. 610): "Pityriasis Versicolor Treated with Goa-Powder."

Thos. E. Jones (p. 610): "Local Effects of Chrysophanic Acid."

Editorial (p. 622): "Metallotherapy." [See July No.]

Mouvement Médical.

April 21. M. Pautier: "Phosphate of Lime in Wasting Diseases of Children." [The author claims to have had considerable success with this remedy in the form of chlorhydrophosphate, in wasting diseases of children, and of adults where the preparations of iron were inefficacious.]

Bulletin de Thérapeutique.

M. M. Feltz and Ritter: "Acute Poisoning by the Acetate of Copper." [The authors have arrived at the following conclusions:

1. The acetate of copper is more active than the sulphate.
2. The longer the animals have fasted, the more active are the symptoms of poisoning.
3. A poisonous dose of acetate of copper imparts so strong a taste to food, either solid or liquid, that it is impossible to swallow it unawares.
4. The appearance of icterus indicates that, in subacute poisoning by acetate of copper, there is a supersecretion of bile analogous to that produced by arsenic, antimony, phosphorus, etc.]

M. Bouchardat: "Sulphate of Cinchonidine." [The author recommends that this alkaloid should be substituted for the sulphate of quinine bath as a febrifuge in intermittent fever, and as a tonic in those diseases for which the latter is usually prescribed. Its action in his hands has been identical with that of quinine.]

Gazette Hebdomadaire. Nos. 7–17.

H. Chouppe: "Metallotherapy."

Dr. Onimus: "Errors which may be committed in the Employment of Electricity for Physiological Experiments."

V. Feltz: "New Experiments with Fuchsine." [As the result of these experiments M. Feltz has arrived at the following conclusions, viz.:

1. Pure fuchsine is not a poison.
2. Pure fuchsine, and even the ordinary fuchsine of commerce, in the doses in which it is employed for the coloration of wines is not deleterious. The accidents which have been noticed are due rather to the products employed in the fabrication of falsified wines.
3. Fuchsine in moderate doses (5 to 15 centig.) continued for a long time becomes injurious, from the fact that it

eliminates through the kidneys so great a quantity of phosphorus, and thus causes debility.

4. Fuchsine, unless administered in solution, is not eliminated through the kidneys.

5. In two cases of albuminuria the administration of fuchsine caused the albumen to disappear. (See *Gaz. Hebd.*, No. 25, 1876.)

6. The employment of fuchsine for the coloration of wines should be forbidden, not because it is injurious in the doses employed for that purpose, but because it permits, on account of its great coloring power, falsifications which would not be possible without it.]

V. Feltz and E. Ritter: "Accidents caused by the Injection of pure Fuchsine into the Blood." [In the course of their experiments they noticed that the animals presented symptoms similar to those of alcoholic intoxication.]

Drs. Hardy and Gallois: "Experiments with Strophantine." [The active principle of the Strophantus hispidus has never been isolated. Frazer has obtained an extract, supposed to contain an alkaloid, which he has provisionally named Strophantine. It is extremely poisonous, a few crystals placed under the skin of a frog's foot arrest the action of the heart in two or three minutes. The tufts of the grains were analyzed separately by Hardy and Gallois, and found to contain a true alkaloid which does not arrest the heart's action; they named it "Ineine."]

M. Gronier: "Poisoning by Arsenuretted Hydrogen." [The author observed that the miners at Saint Etienne, who were in the habit of using bichromate of potassa batteries in a circumscribed space for a long time, exhibited symptoms of arsenical poisoning. Impure sulphuric acid, which almost invariably contains arsenic, was employed, and when the piles were working, arsenuretted hydrogen was disengaged.]

MM. Feltz and Ritter: "Acute Poisoning by Sulphate of Copper." [After a series of experiments upon frogs, pigeons, rabbits, and dogs, the authors conclude that sulphate of copper cannot be considered innocuous, although its action is not fatal in the immense majority of cases.

It is fatal only when it does not cause immediate and energetic vomiting, and even then the dose must be so large that it could not be taken unawares in the food.]

Mouvement Médical. Nos. 7–11.

P. Vigier. "Preparation of Picric Cotton for dressing Wounds." [After a trial of various methods the author has resolved upon the following as the most efficient: Soak 10 grammes of carded cotton in a solution of 25 centigr. of picric acid and 25 grammes of either alcohol or ether. Dry it with a mild heat.]

Tanret and Villiers. "A Saccharine Matter obtained from Walnut Leaves."

[By treating the leaves with water a saccharine matter is obtained.]

Dr. Jardin: "The Action of the Balsams in general and that of Buchu in particular in the Treatment of Diseases of the Urinary Organs."

Dr. Hugues: "Eau de Cologne as an Anæsthetic."

[A handkerchief saturated with eau de cologne and held to the nose for 8 or 10 minutes caused complete insensibility, lasting from half an hour to an hour, or more.]

Bulletin de Thérapeutique. No. 5, 6.

Dr. Peter: "Cold Baths in the Treatment of Typhoid Fever."

Dr. Garnier: "Case of Intestinal Occlusion cured by Carbonic Acid."

[A tube was introduced into the rectum, to the outer extremity of which was attached, by rubber tubing, an ordinary siphon of Selters water. Its entire contents were injected, and relief was immediate.]

Pharmaceutische Centralhalle. Nos. 6–17.

E. Schobig: "On the Purification of Hydrogen Gas." [It being often important to have absolutely pure hydrogen, the author has examined the various possible gaseous contaminations, such as arsenetted, antimonetted, phosphoretted hydrogen, carbonic acid and sulphydric acid gas, and found that there is one solution which is capable of removing most of these compounds, namely, a solution of potassium permanganate. The generator should be first connected with a wash-bottle containing soda solution, in which would be retained the carbonic and sulphydric acid; then the gas should be passed through a neutral or acidified solution of potassium permanganate, in which the other impurities would be retained, and finally it should be passed through sulphuric acid, if it is wanted completely dry. In this manner hydrogen is absolutely freed from odor.]

Dr. H. Hager: "Saturation-Table of Salicylic Acid."

Saturated, or neutral solutions of *sodium salicylate*, may prepared by the following table:

5.0	of salicylic acid	require	3.25	sodium bicarbonate.
6.0	"	"	3.90	" "
7.0	"	"	4.55	" "
8.0	"	"	5.20	" "
9.0	"	"	5.80	" "
10.0	"	"	6.50	" "

Or, to state it more correctly, *the weight of salicylic acid, multiplied by* 0.65, *gives the weight of sodium bicarbonate necessary for saturation.*

If it is desired to use crystallized sodium monocarbonate, or sal soda, the proportions will be as follows:

5.0	of salicylic acid	require	5.2	of sodium carbonate.
6.0	"	"	6.3	" "
7.0	"	"	7.3	" "
8.0	"	"	8.3	" "
9.0	"	"	9.4	" "
10.0	"	"	10.4	" "

Or, to state it more exactly, *the weight of salicylic acid, multiplied with* 1.04, *gives the weight of sodium carbonate necessary for saturation.*]

P. Picard: "Determination of Urea in the Blood. (See July No.)

H. Hager: "Gallo-Tannic Acid a Reagent for Ammonia." (See July No.)

Liebig's Annalen der Chemie. 186,2,3.

Karl Etti: "On Catechin." [The author has reinvestigated this substance, and finds that Hlasiwetz's formula is correct, namely, $C_{19}H_{18}O_8$. He prepares it as follows: Catechu is dissolved in 8 parts of boiling water, the solution immediately strained, and exposed to cold for a few days. This causes the separation of crude catechin, which is almost insoluble in cold water. It is collected on a strainer and afterwards pressed. The cake of impure catechin (which is still accompanied by a good deal of catechu-red) is dissolved in a sufficient quantity of very dilute alcohol, the solution (after settling) filtered, and shaken with ether, as long as it takes up any catechin. The ether being removed, the residue is treated with water, and the solution allowed to stand several days, when most of the catechin separates in colorless crystals. It is once more strained, pressed, and dissolved in boiling water (which leaves quercetin behind), and from this solution it is obtained in small, colorless needles.]

De Farmaceut. Nos. 24–28.

V. d. Harst: "Cinchonidia as a Substitute for Quinia." [Weddell, in a paper read before the Académie des Sciences, at its session of January 22, 1877, states, on the authority of J. El. Howard, that cinchonidia has taken the place, in a large measure, of quinia, in India as well as in Europe, being found to be but little inferior to the dearer alkaloid.]

Dr. Vitus Bruinsma, in a series of very able articles, attacks the trade in nostrums and secret remedies, which has gradually sprung up in Holland, and shows up some of the curious underground ways of this illegitimate commerce.

C. G. Wittstein: "On Caustic containing Lead." [The author states having met with samples of fused silver nitrate, containing 4.4 per cent. of lead nitrate, an impurity which has not been found or publicly noticed for nearly thirty years.]

ORIGINAL COMMUNICATIONS.

SODA-WATER APPARATUS.

PRACTICAL HINTS CONCERNING ITS SELECTION AND MANAGEMENT, AND SUGGESTIONS AS TO THE BEST METHODS OF MAKING AND DISPENSING CARBONATED BEVERAGES.

One hundred and ten years ago, the celebrated Dr. Joseph Priestley, while living at Leeds, England, amused himself with experimenting in a neighboring brewery upon the carbonic acid (or "fixed air," as it was then called), which he found resting in a thick layer upon the fermenting mass in the brewer's vat. Dr. Wm. Brownrigg, some time before, had advanced the novel theory that the sparkling appearance of Pyrmont water was due to the presence of "fixed air" therein. To test this Priestley took two small vessels partly filled with pure water, held them below the surface of the stratum of "fixed air," and poured the contents briskly back and forth from one dish to the other. After some minutes of this exercise, he was delighted to find that the liquid had acquired the sparkling appearance and brisk taste characteristic of the Pyrmont spring! And thus it was, in the very citadel, so to speak, of a rival beverage, that the eminent discoverer of oxygen made and drank the first glass of pure soda-water ever manufactured.

Nevertheless, although Priestley lost no opportunity to urge the utilization of the "fixed air" generated in breweries and distilleries, but little heed was paid to him, and the real business of making carbonated waters took its rise some years later, and, curiously enough, in Sweden. Prof. Torbern Bergman, one of the greatest of chemists, suffered, in 1770, from a painful disease, which was much alleviated by the use of mineral waters obtained from Germany. The impossibility of getting these in the early spring led Bergman first to analyze and then to compound them, which he did with remarkable success. His process consisted in generating carbonic (or, as he called it, "aerial") acid, impregnating water therewith, and then adding various mineral ingredients, according to the particular spring he desired to imitate. He devised simple and efficient apparatuses for generating carbonic acid from chalk and vitriolic acid, and the use of them became so popular, even in the most distant Swedish provinces, that women, as well as men, practised aeration with wonderful dexterity.

Bergman's methods were transplanted to Geneva, and thence to Paris, and practised there on a large scale, and with various improvements, before the end of the century. Somewhat later the business began to spread in Great Britain, the first patent for impregnating water with gas having been granted in 1807, to Henry Thompson, merchant, of Tottenham, Middlesex. About the same time the subject commenced to attract attention in the United States, and in 1810 a patent was taken out by Simmons & Rundell, of Charleston, S. C., for saturating water with "fixed air." Since then an enormous amount of capital has been embarked in the business, and the talents of inventors have been ceaselessly exerted to perfect in every detail the apparatus requisite for making and dispensing carbonated beverages, the chief of which is still popularly known by the accidental and inappropriate name of "soda-water," fastened upon it by an obscure manufacturer, who either derived his gas from bicarbonate of soda, or thought to improve the acidulated liquid by adding a little soda to it. A single American firm, engaged for two generations in making soda-water apparatus, has taken out over one hundred patents, employs a capital of a million dollars and a force of over three hundred workmen, conducts thirty-eight distinct trades in its factory, sends its products to every quarter of the globe, and has sold over twenty thousand apparatuses.

At least three-fourths of these, besides thousands made by other manufacturers, have gone into the hands of the druggists of the United States and Canada, and the manufacture and sale of soda-water forms an increasingly important part of their business in the warm season. A fine apparatus is a good sign of taste and enterprise, and in favorable localities the profits from this source during the three summer months may be relied on to pay the whole year's rent. In view of the amount of capital invested by druggists in this direction, some practical hints as to the choice and management of apparatus and the general conduct of the business, derived from men of the widest experience, may prove both timely and valuable.

As in cooking a hare you must first catch the animal, so, to manage a soda-water apparatus, you must first buy one, and this preliminary purchase is by far the most important part of the business. A good apparatus, like a good horse, may cost more at the outset, but it is managed with safety, ease, and cheapness, while a bad apparatus is even worse than a bad horse, for the one may improve with training, but the other inevitably entails annoyance, expense, and positive danger in a constantly increasing degree. In making an investment of this class the buyer should never forget that "a poor article is dear at any price." And he should never fail to bear in mind the importance of buying of a manufacturer of recognized skill and reputation. In no sort of apparatus or machinery are serious defects more likely to occur from the ignorance, carelessness, or trickery of the maker, and in none is it more difficult, even for experts, to discover such imperfections. This fact was strikingly illustrated in the recent experience of a prominent Broadway druggist, who paid a dealer of doubtful standing fifteen hundred dollars for a showy counter apparatus which, after a single season's use, he had to have thoroughly overhauled and repaired by another manufacturer at a cost of three hundred and fifty dollars. In taking it to pieces it was found that the metal faucets of the syrup tanks were set in with red lead, liberally applied, so that the unconscious druggist had actually been dealing out a slow poison to his unsuspecting customers.

A most important part of a complete set of soda-water apparatus is the gas generator. In large cities it is common to buy or hire a dispensing apparatus, and get the soda-water ready-made and delivered in large fountains. The country druggist, however, is generally obliged to make his own soda-water. But this is no disadvantage, as, after the first outlay, it is far cheaper to manufacture the soda-water than to buy it.

The generators in common use are made of copper, iron, or steel. Copper was the material first generally employed, because, while possessing considerable strength, it could be made into the desired form at a moderate cost for labor and material. The objections to it, however, are very serious. It cannot be expected to sustain a pressure of more than three hundred pounds to the square inch, and the heat evolved in the process of generation is slow but sure destruction to it, this metal being weakest when it is warm. At the best a copper generator will not last more than ten years, and it is always increasingly liable to a disastrous explosion. The introduction of the cast-iron generator was a great step in advance. A single generator of iron would cost far more than a copper one; but when the growth of the business warranted manufacturing them by wholesale, it became possible to sell, for one-fifth less than the copper article, an iron generator able to resist a pressure of five hundred pounds, and to do good service for twenty years, the heat evolved in its use being rather strengthening than otherwise. Even iron, however, does not secure absolute safety, which can only be attained by using a metal strong enough to resist the pressure of the entire volume of gas that can be generated from a single charge by adding all the acid at once to the carbonate. Such a metal is found in steel, generators of which are gradually coming into use among intelligent purchasers, just as steel rails are being introduced on the best managed railroads. Steel generators will resist a pressure of one thousand pounds to the square inch, and will last a hundred years. They cost about one-fourth more than copper, and a little over one-half more than iron generators. They are really by far the cheapest in the long run, especially as they can be sold, after years of use, for nearly as much as they cost, where an iron generator would bring no more than half of the original price, and a copper one would be worth almost nothing, except as old metal. As to safety, you must keep both eyes wide open in using a copper generator; with an iron one you may shut one eye if you choose; and with a steel one you may sleep as sound as you like. This was well shown in the case of a Philadelphia house who bought a copper generator, which, after being used only twice, was found to have increased two inches in diameter. In much alarm they hastened to buy a steel generator, and breathed freely once more on finding, by actual test, that raising the pressure to seven hundred and fifty pounds (as high as it would go) produced not the slightest injurious effect.

If steel generators were exclusively used, this branch of the subject might be dropped here. It is a fact, however, not only that great numbers of iron ones are employed, but that more than one-third of the generators in use in this country to-day are made of copper; and, strangest of all, there is still a demand for new ones of the same metal, although they are more expensive than iron, and in every way less desirable, except that the lightness of the copper involves some saving in freight when the apparatus is to be shipped a long distance. This, however, is a trifling matter, and if the purchasing public understood the subject rightly, not another copper generator would be sold. It is not to be supposed that, after this explanation, any reader of New Remedies will squander money on a copper generator, but for the benefit of those who may have such generators on hand, or who may be using iron ones, we will point out the dangers to be avoided.

Especially must untiring care be exercised in using old copper generators, as with these at least nine-tenths of the accidents occur. The metal being inherently weak, the constant danger is that the gas may be generated so rapidly, or drawn off so slowly, as to increase the pressure beyond the generator's power of resistance. It is taken for granted that the operator knows enough to remove the old charge, to rinse the generator thoroughly with clean water, to wipe the nuts and screws of the acid and carbonate "bungs" with a clean cloth, and grease them moderately with tallow (not oil), and then to place the proper amount of carbonate and water in the receiver. Always use a lead funnel with a sheet-lead strainer in putting in the acid, and carefully avoid spilling it on the generator, as it will corrode the metal. The strainer is to keep out any sulphur, glass from the carboy, or other hard particles which might cause the acid valve to leak. After turning on the acid always close the valve firmly, but not rudely. This valve is the weak point of the machine, and must be carefully treated and closely watched. Test it every now and then by pouring in water when the generator is empty, and then closing the valve and listening at the bunghole to see if you can detect a dripping. If you can, or if, after turning off the acid at any time, you see from the gauge that the pressure continues steadily to increase, you may be sure there is a leak requiring immediate attention. In such a case, of course, the valve must be carefully repaired or replaced by a new one. Another danger is that, though the valve may not leak, the packing may become worn, letting the rod slip so easily that the pressure of the gas may raise it, thus prematurely admitting fresh acid with the most serious results. To prevent this every generator should have a cam-lock shutting down over the lever of the acid valve.

A leak, or a loose rod, or sheer carelessness in not shutting off the acid, may serve to generate a dangerous amount of gas. To guard against this risk either a safety-valve or a safety-cap is generally employed. To avoid corrosion from the acid the safety-valve must be placed on the gas washer, at such a distance from the generator that the connecting-pipe may be choked and the mischief done before the valve can act, and even without any warning from the pressure gauge, which is also placed at or near the gas washer. The valve may work too easily, or may leak, permitting a wasteful escape of gas, or it may stick and fail just when it is most needed. A much better device is the safety-cap, which is attached directly to the generator, is provided with openings, and contains a small disk. This disk bursts at a certain pressure, allowing the gas to escape through the openings in the cap. The disadvantage of this is that it involves the loss of the charge in the generator, and the expenditure of a few cents for a new disk. But, on the other hand, it insures positive safety, making it absolutely impossible for the generator itself to burst.

A Harlem druggist, while quietly putting up a prescription one day last summer, heard something snap in the basement, and, on going to reconnoitre, found his boy fast asleep, and the gas pouring out through the vents in the over-charged generator. But for that cap the daily newspapers might have had to record "a destructive explosion," and we do not hesitate to say that no copper or iron generator—copper especially—should be run a single day without a safety-cap and a lock on the valve handle.

A word should be said here against the practice of putting a faucet valve in the pipe connecting the generator and gas washer. This is done so that the operator can add to the charge of carbonate without wasting the gas in the washer; but the gain is slight, and, sooner or later, this valve is sure to be left closed, the gauge on the washer can give no warning, and (except with a steel generator) a speedy explosion is inevitable. Reputable manufacturers positively refuse to put in such faucet valves, and, where they have been put in, no time should be lost in taking them out. In the best machines the washer is placed on a higher level than the generator, so that the water in it flows through and cleans the connecting-pipe when the generator is emptied. When this is not the case, the pipe should be specially large, and should be occasionally removed and cleaned.

Supposing this pipe to be all right, the acid valve to be in perfect order, and the acid to be added to the carbonate in proper quantities, there is still an ample field for skill and caution in drawing off the gas. If you wish to charge your fountains at a certain pressure, say one hundred and fifty pounds, wait till the gauge indicates that pressure or a little more, and then gradually turn the charging-pipe valve. Keep your eye on the gauge, and, by adding more acid or diminishing the flow of gas, keep the pressure as nearly as possible at the original point. *Under no circumstances should the pressure vary more than twenty pounds during the process of charging the fountains.* This is a point of great importance, and one greatly neglected, some operators being careless enough to allow the pressure to run up to two hundred and fifty, and then down with a rush as low as sixty. Such extremes not only strain and weaken the generator, but serve to choke the pipes and seriously injure the quality of the carbonated water. The reason of this is very simple: The sudden relaxation of pressure in the generator causes the mixture contained in it to boil up, so as not only to invade the acid chamber, but also to rush into the gas washer, and even into the fountain, thus, of course, causing great inconvenience, and, in extreme cases, completely spoiling the water which is being charged. The connecting-pipe has even been sometimes so suddenly and entirely choked up in this way as to cause an explosion.

To secure thorough carbonation with perfectly pure gas, it should not only be equably drawn off, as above stated, but it is an excellent plan to place some fragments of marble in the water contained in the acid washer. These absorb whatever sulphuric acid may have escaped from the generator, thus evolving more carbonic acid; whereas, if only water is contained in the washer, it will certainly take up more of the carbonic acid, which will thus be wasted, and it may permit the passage of some traces of sulphuric acid to contaminate the water which is being charged. The pieces of marble also insure a more thorough washing and cooling merely by the mechanical effect of compelling a much slower and more meandering movement of the gas than when the common dip-pipe is used.

During the intervals when the generator is not in active use it should be kept filled with water, in order to dilute and remove any acid that might otherwise adhere to it with injurious effect. At the coming on of winter, however, the water should always be drawn off, unless the climate is so warm that there is no chance of freezing. This point should not be neglected, for, even if the generator is not actually burst by such freezing, it is very apt to be so strained and weakened as to explode when put in use again, though there may be no perceptible sign of injury from frost. Common generators, especially copper ones, should always be tested at the opening of the season, by hydraulic pressure, up to a point twice as high as that at which they are commonly used; above all should this be done if water has by any accident been left in them during the winter. It is advisable also, particularly if the generator is old and in constant use, to have it tested two or three times during the summer.

The weak point in all these gas generators, as we have said, is the acid valve, and the main difficulty in their management lies in regulating properly the flow of the acid upon the carbonate. This trouble is largely obviated by the very simple device of placing the acid in the lower receiver, and the powdered carbonate in the upper one. An improved generator is now manufactured on this principle, the two chambers being divided by a thin metal diaphragm, pierced with four narrow slits which are closed or opened by moving a simple four-winged valve, and through these, when opened, the carbonate sifts upon the acid. Such a valve cannot leak, cannot be forced open by the pressure of the gas, and it is, moreover, entirely removed from the corrosive action of the acid, which is confined to the lower portion of the apparatus. The carbonate settles into the acid as it falls, and the elements are thus sufficiently mixed by the mere force of gravity. This improved generator costs rather less than the old style, and presents advantages enough to warrant commending it to the attention of purchasers who desire the best.

Supposing, whatever sort of apparatus may have been used, that the gas is now safely generated and thoroughly purified; the next question of importance relates to the receptacles, or fountains as they are technically styled, in which the water is actually to be carbonated and afterwards contained until it is dispensed to the consumer. It is no exaggeration to say that in the druggist's choice of fountains lies the great secret of the growth and success, or decrease and failure, of his business as a seller of soda-water. The stoutest of steel generators and the handsomest of counter apparatuses will be of no permanent avail if the fountains are not what they should be, and a man may coin money with a copper shell and a single draught column if he has a good fountain. This is strong language, but it is fully warranted by the facts, as we shall now proceed to show.

(To be continued in July Number.)

COMMERCIAL DRUGS OF THE CHINESE PROVINCE OF KUANG-TUNG (CANTON).

BY DR. F. HIRTH DU FRENES, OF AMOY, CHINA.

.....GINGER grows in nearly all parts of the province of Kuang-tung. According to Chinese sources the district Nan'-hai, which belongs to the city of Canton, produces greater quantities and a better quality than the other neighboring districts. The independent tribe of the Miao-tsu, in the mountains at the north-western border of the same province, are also said to produce large quantities of ginger. In the district of Hsin-hsing—about 30 miles south of the city Chao-ching, on the Western River—three-tenths of the flat land and seven-tenths of the cultivated soil in the hills are planted with ginger. A distinction is made between flat-land ginger (in the Canton dialect tin-keung), which is generally soft and tender, and mountain ginger (shan-keung), which is brittle and very pungent. For home consumption the Chinese pickle it in vinegar; the more expensive syrup-ginger (t'ong-keung) is almost exclusively consumed by foreigners or exported.

A less important, but interesting drug is *galgant* root, which has its original home, and even now, almost exclusive growth in the province of Kuang-tung. European druggists distinguish two varieties: radix galangæ majoris, the greater galgant; and radix galangæ minoris, the lesser or true galgant. The latter is the Chinese drug. The dried root, which is sold by the grower at the rate of about $1.50 per picul (=133⅓ lbs.), and which may be purchased at present in the new treaty-port Hai-k'on upon Hainan, for $1.60 per picul, is brought by junks to Hongkong and Canton, where its price ranges at about 3 or 4 dollars, and whence it is exported to Hamburg or to the United States. Russia also consumes considerable quantities of galgant, which is said to be mostly carried over Hankow; it is there chiefly used to impart a characteristic aroma to a favorite liquor, called Nastoika, and is a favorite spice and medicine among the Livonians and Esthonians.

Another product occurring upon the Canton market is *Curcuma* or turmeric, which is the root of various species of Curcuma growing in the immediate vicinity of Canton, chiefly in the district Tan-yü, to which the eastern half of the city of Canton belongs. A great deal of it reaches the market already in the form of powder.

Much confusion has been caused by the application of the term *China-root* (Radix Chinæ) to various entirely different drugs. In reality this name is applied to two products only, which have only a distant resemblance to each other. The true China-root, which is understood by this name in European pharmacy, grows in the neighborhood of Canton. In the Chinese herbal, Pên-tsao, it is described under the name tu-fu-ling, while the false China-root, which grows in the province of Sze-chuen, and is brought to market at Hankow on the Yang-tse, is called in the same work by the similarly sounding name fu-ling; and it is not impossible that this resemblance in Chinese names has been the cause of the confusion.[*] Dr. H. F. Hance, who examined one of the plants from which the true root is derived, declared it to be *Smilax glabra* Roxb. It is said to be found all over the province Kuang-tung. The description of China-root, which is found in Dr. S. Wells Williams' "Commercial Guide," refers only to the China-root of the North (a species of fungus, *Pachyma Cocos*), which forms indeed a considerable article of trade, but is scarcely ever exported further than to the Chinese colonies in Southern China and in the Malay Archipelago. On the other hand, the China-root of the South—which is the only one in demand for the European market, although it fetches a much lower price—is exported from Canton either direct or by way of Hongkong to Europe, the United States, or to the East Indies.

Canton is also a chief market for various industrial oils, principally *pea-nut oil* from *Arachis hypogaea*. This plant is of great agricultural importance in Southern China, particularly in the four western departments of the province of Kuang-tung.[†] The oil obtained from the nuts is carried upon junks belonging to a great commercial native corporation, first to Ch'en-tsun, a river-harbor close by Canton, whence it is distributed to the interior by means of a highly-ramified system of canals. Of the various grades of the oil produced in the neighborhood of Canton, that from Tsung-hua, about 20 miles north of Canton, is considered the best. The trade in other oils is insignificant in comparison to that just mentioned; nevertheless, a few deserve mention. *Tea-oil*, obtained from the seed-kernels of *Camellia oleifera* (Chin. ch'a-shu, *i.e.*, tea-tree), is mostly produced in the northern districts of the province, namely, in Nan-hsiung, Shao-chou, Lien-chou and Lien-shan. In Kuang-chou fu, in the Department "Kanton," and in Chao-ch'ing fu a sweetish aromatic oil is obtained from various sorts of cabbage, which is known in the market as *cabbage-oil* (tsai-yu). All these oils, when purified, are used by the Chinese for culinary purposes, while the inferior sorts are utilized for burning in lamps. Other oils are produced from *sesame*, from the Chinese *olive* (a species of *Canarium*, the fruit of which has only a slight resemblance to the European olive), and from yellow and white *beans*. *Wood-oil* is obtained from the seeds of the wu-t'ung tree (*Dryandra cordata* Thunb.,[‡] which has its home in the north of the province of Nan-hsiung and Shao-chou fu.

The woods of Hainan are rich in aromatic woods, the botanic origin of some of which is still enveloped in doubt. The most important are *eagle-wood* (lignum aloës) and *rose-wood*, the chief depot for export being Ai-chou at the south-coast. The principal commercial articles of Pei-hai (Pak-hoi) are sugar, oil, and indigo, the best quality of which latter is produced near Pei-lin (Pak-loa), about 60 miles north of Pei-hei. Next may be mentioned: China-root, galls, incense, myrrh, wood-oil, assafœtida and *star-anise*. Of the latter between 1,000 and 2,500 piculs are brought to market annually at Macao and Canton. In 1871. at the latter port alone, 2,704 pic. were delivered from Pak-hoi in junks Our pharmacological text-books usually attribute the production of star-anise to Japan, the Philippine Islands and to the Chinese province Fu-chien, while it is now well known that the border districts of An-nam, Kuang-tung and Kuang-hsi are its real home.

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[*] On China-root see *Pharmacographia*, p. 648.

[†] These are called the "lower 4 Fu," "hsia-ssu-fu," namely, Chiung-chou (Hainan) Lei-chou (the peninsula), Lien-chou and Kao-chu.

[‡] This is different from gurjun or wood-oil, obtained from various species of *Dipterocarpus*. See NEW REM., v., 201.

(To be continued.)

BROMHYDRIC ACID.

To the Editor of New Remedies.

Dear Sir:—I write the following as an explanation in answer to your correspondent J. W. J., of Ann Arbor, Mich., who asks in May No. of New Remedies how druggists are to know what strength of bromhydric acid is intended in prescriptions unless specified. It is well known that this drug has only recently been added to the list of therapeutical agents, and that its author (Dr. Wade, of this place), also proposed the formula for its preparation, and adopted from the first the standard of ten grains of bromine to the fluid drachm. Unfortunately, the formula given by Dr. Fothergill, of London, England, after having referred to the original article in *Peninsular Journal of Medicine* (Detroit), by Dr. Wade, gives a preparation considerably weaker than that first proposed; but it is probable that this was unintentional on the part of Dr. F., as he intrusted the whole matter of its preparation to the hospital pharmacist, and has said nothing in regard to lowering the standard. Now, the average dose of bromhydric acid of the strength of ten grs. of bromine to the drachm is half a drachm for an adult, and it is altogether likely that whoever prescribes it, does so, having only in view the preparation above described. If this formula should be adopted as officinal, the result would be "dilute bromhydric acid." Supposing it to not be here out of place, I append the working formula for its production:

℞ Bromide of potassium........ 120 grs.
Crystallized tartaric acid...... 153 grs.
Water...... .... 1 fl. ℥.

Dissolve the bromide in the water, and then the acid. Place in cold water 12 hours for precipitation and decant. Large quantities may be made, as it keeps well. I usually prepare 40 ozs. at a time.

As prepared from above formula its specific gravity at 60° is 1.228. It can be afforded at wholesale at 60 cents per pound.

I claim to have prepared (under Dr. Wade's supervision) the first ounce of ac. bromhydric, and since have prepared many gallons. Dr. Wade uses it quite extensively in his practice, and with almost unfailing results.

Resp'y, Howard M. Church,
Druggist.

Holly, Mich., May 29th, 1877.

MALT EXTRACT.

To the Editor of New Remedies.

Dear Sir:—May I call attention through your pages to the great difference which exists between the malt extracts of different manufactures?

Some years ago, when Hoff's malt extract was brought prominently before the profession in this city, I made a considerable trial of it, and in *some* cases, I must admit, with good results; but the fact that I have almost ceased to use it, will, perhaps, convey my opinion of its merits as well as anything more which I could say.

Recently I have had occasion to use and compare the results from the use of other so-called malt extracts, and this not only in a general practice, but more particularly in that of a dispensary, where the patients were directly under my observation, and I was able to note carefully the effects produced. I have been struck by the remarkable difference in the value of these agents. I have found an invaluable aid in the treatment of many cases, such as anæmia, some forms of tubercular disease, and more especially in marasmus and kindred forms of children's diseases, in one of these preparations.

While not wishing to be considered as a simple advertiser of any particular preparation, I feel justified in calling attention to Link's malt extract for the following reasons:

1. I have no pecuniary interest in its manufacture (which I believe is not in this country).

2. It is as distinct in its effects from other malt extracts (at least some of them) as if an entirely dissimilar substance, and I feel as if conferring a favor on those of my professional brethren who have been disappointed in the use of others, by calling their attention to this preparation; and,

3. I believe that it will be found a valuable addition to our list of remedies, and that the lives of many children may be saved by its use during the hot season, already upon us.

Respectfully,
Lemuel J. Deal, M.D.,
Professor of Chemistry, Penn. College of Pharm.
No. 148 E. Huntingdon Street, Philadelphia.

[That considerable variations exist in the therapeutic value of different preparations of malt extract, there can be but little doubt, since most of its virtue depends upon the presence of diastase—a principle easily destroyed by improper management during the process of manufacture. In addition to the preparation so highly recommended by Professor Deal (concerning the excellence of which we have other testimonials), those of Toussaint, of this city, Loeflund, of Stuttgart, and the Trommer Extract of Malt Co. of Fremont, Ohio, leave little to be desired in the way of a choice.—Ed. N. R.]

MISCELLANEOUS CONTRIBUTIONS FROM THE ORIENT.

BY PROF. XAV. LANDERER, ATHENS, GREECE.

(Continued from p. 116.)

A New Antiepileptic.—An intimate friend of mine, who has been subject for years to epileptic fits, and had exhausted the catalogue of staple remedies, placed himself in the hands of a priest, who had formerly been a herbalist (ῥιζοτόμος), and claims to have discovered a plant, which removes, or at least alléviates the evil. He collects it in the Kephissos Valley. By accident I obtained a sight of the root, branch, and one leaf of the plant, and do not hesitate to pronounce it as *Clematis cirrhosa* or *sylvestris*. Two previous cases of epilepsy were treated by a decoction of the root of this plant, and the result was a postponement of the attacks for over three months, perhaps for longer, or altogether, as time will show. This decoction is also strongly diuretic; and the bruised fresh leaves act as a rubefacient, and sometimes even as a vesicant when applied to tender parts of the skin. The name κληματὶς is derived from κλῆμα, *vine*.

Sophistication of Wines.—No person in Greece, where grapes are often a drug in the market, would think of making artificial wine. The price of the best grapes is only about 10 leptas*); that of a botza of grape-juice is 20-30 leptas. In the richest wine districts, as in Morea, in Eubœa, and upon the Daimonisi Islands (N. O. of Chilidromi), the must (μοῦστος) is often given away to poor families, owing to a lack of barrels, or it is inspissated to a sort of root. This is used for preparing a peculiar delicacy, by dipping into it strings of nuts and almonds until a sufficiently thick layer has been deposited upon them, after which it is covered with powdered sugar and flour, and packed away. These sausage-like sweetmeats are called soutsukia or moustopyta (μουστόπητα). The residues left after obtaining the grape-juice are bought up by agents for very low prices, and are exported to Trieste or Venice in immense quantities. They furnish the bases of artificial wines. Although "no admittance" is the strict rule in these factories, I have been lucky enough to be an eye-witness of the operations. The grape-husks are boiled by steam in wooden vats, the saccharine colored liquid is drawn off, and by addition of yeast fermentation is induced. They are then filtered and "colored" by means of "wine-coloring," colore di vino. For this purpose the flowers of *Malva arborea* are imported from Sicily; they have, when dry, a blackish, or rather deep bluish-red color, and readily yield their coloring matter to alcohol. A proper quantity of this tincture is then added to the "wine,' to give it the tint of French red wines, and the resulting product is sold as *Petit Vin de Bourgogne*. Nevertheless, the beverage is harmless and the grape-husks are an important article of export from Greece.

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* 100 lepta = 17 cents = 1 drachma (of 1833).—1 botza (μπότζα) or flask holds 2 okkas or 2½ kilos of wine. Wine is usually sold by weight: 1 bareli = 24 botzas = 50 okkas. By measure this would be equivalent to about 64 litres.—Ed. N. R.

Extractum Ferri Uvicum.—In countries like Greece, where the proper kind of apples for preparing Extractum Ferri Pomatum cannot be obtained, a very serviceable preparation may be made by dissolving freshly precipitated oxide of iron (from ferrous sulphate), in the juice of white grapes, filtering and evaporating to a thick extract.

An Ancient Silver-Vessel.—In 1837, during the presence of Ludwig I. of Bavaria, an ancient tomb was opened at Athens, in the neighborhood of the old Chamber of Deputies. A large number of people, the court, myself, and some friends were present, and witnessed the opening of the sarcophagus. It contained a female skeleton, and among a lot of trinkets there was found a drinking-cup of milk-white color. This was removed and handed around for inspection, but it rapidly became gray, and finally nearly black. Being requested to examine the matter, I found, on cutting through the edge of the cup, that the interior had preserved its metallic condition of pure silver, but the exterior had become converted into chloride, probably by infiltration of sea-water, and hence the sudden change in color, on exposing it to light.

(To be continued.)

TRADE NOTES.

Dialyzed Iron.

DUBRUNFAUT, Graham, and others, showed that by floating upon distilled water a vessel closed at its lower part by a membrane, and containing an intimate mixture of various substances, these will soon divide themselves into two distinct parts. The ones, called *Crystalloids*, pass through the membrane, as do also most of the crystallizable substances, and mix with the distilled water. The others, which received the name of *Colloids*, and of which albumen may be considered as a type, remain wholly in the apparatus.

This *dialysis*, or separation, takes place with such nicety, and such precision, that this method has been employed in medico-legal investigations to isolate poisons which chemical processes would have destroyed or left in the mixtures which were to be analyzed.

If certain salts of iron in solution are introduced into the dialyzing apparatus, and the latter is floated upon distilled water, most of the acid is soon found to pass through the membrane and into the distilled water. There remains in the apparatus mainly a solution of a peroxide of iron better freed of its acid than any chemical reaction could do.

When properly made, the solubility of dialyzed iron in distilled water is very remarkable, and this degree of solubility is unaffected by nitric, acetic, or muriatic acids, but traces even of organic matter, sulphuric acid, alkalies, some salts, and boiling cause a coagulum to form resembling a blood-clot, which is insoluble in water, but soluble in dilute acids. Neither alcohol nor sugar effect a change in the form of the solution, and their use renders it possible to prepare elegant alcoholic solutions and a syrup.

Most valuable features of iron prepared by this method are the absence of any styptic taste, and the freedom from tendency to produce disturbances of digestion or of the nervous system, it is moreover almost tasteless, and is free from tendency to blacken the teeth, qualities not possessed by most ferruginous preparations.

A very valuable use to which it may be put is as an antidote to arsenic, for which purpose it is recommended to replace the hydrated sesquioxide, on account of its convenience of administration, and the fact that it requires no previous preparation.

We have recently had sent to us two preparations of dialyzed iron—one by Lebaigue, of Paris, for whom Messrs. E. Fougera & Co., of North William street in this city, are the General Agents for the U. S., and the other from the well-known house John Wyeth & Bro., of Philadelphia.

The former is a beautiful reddish brown solution, containing about 7½ grains of the dialyzed oxide to each teaspoonful of the solution, the dose being one to four teaspoonfuls with each meal. An elixir of dialyzed iron is also made by the same house, which is an agreeable preparation. What we have said of the above will apply in every sense to the preparation offered by John Wyeth & Brother, with the difference that, being more concentrated, the dose is smaller, and the price is also (so we understand) somewhat less. Accompanying the bottle containing the latter solution is a fresh cork to replace the one injured by opening it, and a medicine dropper (rubber-capped pipette) for measuring the dose. Thirty to fifty drops are recommended to be taken daily, in five doses.

Mathey-Caylus Gluten Capsules.

ANOTHER of the foreign specialties (for which the house of E. Fougera & Co. are distinguished) is the line of Mathey-Caylus Gluten Capsules. The list includes twenty-two varieties and embraces combinations of copaiba, cubebs, rhatany, citrate, carbonate, and tannate of iron, cubebs, alum, magnesia, catechin, subnitrate of bismuth, tannic acid, sandalwood oil, tar, turpentine, etc. These capsules are highly recommended by French authorities, and will no doubt meet with an appreciative market in this country.

Sulphate of Chinoidine.

WE have received from Mr. A. Früh, of Greenville, New Jersey, a sample of chinoidine sulphate, which appears to be a most excellent and cheap substitute for the expensive quinia and other cinchona alkaloids. Chinoidine is well known to be only in so far different from the cinchona alkaloids, as it represents the latter in an uncrystallizable condition, while in therapeutic value it is just as effective as a mixture of the alkaloids. Its principal constituent is amorphous quinia (50–60%) and the only valid objection to its use would be its insolubility and the difficulty of making it into hard pills, which do not flatten out in a warm temperature. These objections are overcome by preparing a citrate of chinoidine which is entirely soluble in water, and with the aid of a little gum, etc., can be made into a good and permanent pill. The sample which we have received contains 66⅔% chinoidine and 33⅓% citric acid, and is prepared by simple solution, filtration, and evaporation, producing a buff or light coffee-colored powder, having all the characteristics of an active preparation of cinchona. The trials, to which it has been subjected by physicians in this city, were quite satisfactory.

Allan's Soluble Medicated Bougies.

FOLLOWING the suggestion of Dr. Reynal, of Paris, who has so successfully introduced the use of medicated bougies in the treatment of catarrhal and inflammatory affections of the urethra, J. G. Allan & Co., of Buffalo, N. Y., offer for sale two varieties of these convenient as well as valuable means for treating gonorrhœa and gleet in the male. They are wrapped in tin-foil and packed in cotton in pasteboard boxes. Each package contains a sufficient number for the treatment of an ordinary case, and retails at $1.50. They offer $500 for any case they cannot cure.

The patent granted the manufacturers on the 17th of October, 1876, is for a flexible urethral bougie, medicated or not, composed of gum arabic or tragacanth, glycerate of starch and cocoa butter, fusible at the temperature of the body, and coated with glue or gelatine, medicated or not. But as we are not informed of the nature of the other ingredients, we do not feel at liberty to recommend them. We can, however, certainly compliment the attractive manner in which they have been put up for sale and use.

The Zero Refrigerator.

THIS is undoubtedly one of the best preservers of food and ice which can be had, and is an almost indispensable portion of the outfit of a drug-store located in a warm climate. With it, syrups and extracts, cream, mineral waters, decoctions, suppositories, ointments, and plasters can be maintained in a condition fit for dispensing in spite of "the nineties," and with the least possible expenditure of ice and trouble. For family use they are rapidly becoming the favorite, being adapted in design to a variety of needs, and constructed with such materials and care that they perform their function with certainty and endurance. The testimonials to the value of these refrigerators would fill a good-sized pamphlet, and their possessors already comprise many thousands.

Food for Infants.

WE are reaching the season of the year when digestive disturbances among infants are the principal causes of mortality, and demand a large proportion of professional care. We therefore ask the attention of our subscribers to some of the valuable preparations advertised on other pages, which are calculated to furnish nourishing food for artificially-fed infants, without subjecting their imperfectly-developed organs to the burden of digesting foods appropriate only for children of maturer years.

The "Baby's Cereal Food," manufactured by Jewell Bros., No. 2 Fulton street, Brooklyn, has been in use for a number of years, and is endorsed by some of the best authorities to be had in that city, both as regards the care which is taken in its manufacture and its value when subjected to the test of practical use.

The letters of Drs. J. H. Hobart Burge, W. S. Searle, and Jerome Walker are unqualified in its praise, as are also those of Professor Dunster and Dr. Joseph Wooster, of this city. Dr. Bell, of the *Sanitarian*, and Prof. Horsford, are also among its supporters. It is put up in attractive packages, carefully sealed, and in composition is said to consist of the best wheat, from which the branny coat has been removed and much of the starch extracted. It has been thoroughly cooked in the manufactory, and requires only a few minutes' boiling to render it fit for use.

Neave's Food for Infants and Invalids has already achieved for itself, both in England, where it is made, and in this country, where it has long been in the market, a reputation which is a sufficient guaranty of its excellence. It is said to be rich in albuminoids and phosphates, and the starch, which is the chief source of trouble in foods given to infants, has undergone such change as to render it easy of digestion by them. "Neave's Food" is put up in metallic packages, and is sold by J. O. Nixon, of Brooklyn, who is the agent for this country.

Whitman's Instantaneous Chocolate.

STEPHEN F. WHITMAN & SON, the Philadelphia confectioners, whose wares are so widely known for their excellence, have recently offered a preparation of chocolate which requires only to be added to boiling milk or water, in the proportion of three dessertspoonfuls to each cupful, to give instantly a delicious beverage. It is put up in oval tin boxes, neatly labelled, and in the form of a fine powder, already sweetened and flavored.

For travelling, yachting, camping, and excursions, as well as for the sick-room, it can readily be conceived to be an excellent thing, and for ordinary family needs and the convenience of the dispensers of soda-water, it may be considered quite as valuable.

NOTES, QUERIES AND ANSWERS.

[*Under this heading we shall, to the best of our ability, endeavor to answer such questions addressed to us as come within the scope of this journal, providing they are accompanied by the name and address of the writer. Answers to queries received after the 5th of the month will lie over until the next issue.*]

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Scotch Soda. (W. C. F., Cleveland, O.)—We are informed by competent authority, that no such article exists in *this* market as a specific or particular brand. In English trade, however, a distinction is generally made between soda obtained from different localities: Scotch washing soda being often quoted in contradistinction to other brands. The former is merely sal soda or sodium carbonate in crystals prepared in Scotland, after Walker and Cammack's process, by a continuous process in revolving furnaces. The outline of the process is this: Into the revolving furnace is first charged a mixture of sodium sulphate and coal, with a quantity of calcium carbonate barely in excess of the chemical equivalent, and the mixture is heated until the reaction is nearly complete. At this stage about 10% of crushed caustic lime is added, and as soon as it is well mixed with the fluxed mass the entire charge is withdrawn. In this way the formation of caustic soda, by means of the caustic lime, is avoided, whilst at the same time the presence of the latter renders the cakes porous, so as to admit of ready lixiviation by water. The solution on evaporation yields the salt.

Indigo-Carmine. (C. V., Chicago, Ill.)—Good indigo is powdered in a mortar as fine as possible (do not buy any powdered indigo), and dried in a capacious porcelain capsule very thoroughly at a temperature not exceeding 110° C. (230° F.). As soon as *all* moisture has been expelled, *fuming or Nordhausen* sulphuric acid is added to the still warm powder, in the proportion of four parts of acid to 1 part of *dry* indigo. The addition of the acid must be performed slowly, under constant stirring with a glass rod. The mass foams up and increases in bulk, wherefore a capacious vessel is required. The whole of the acid having been added, the mass is once more briskly stirred, and allowed to stand, covered, for 24 hours. In the course of this time the coloring-matter of indigo combines with the sulphuric acid, forming indigo-sulphuric or phœnicin-sulphuric acids. These could be at once converted into indigo-carmine, but the product would not be handsome, as the sulphuric acid carbonizes some foreign constituents of the indigo, thereby imparting to the solution a blackish color. In order to remove these, the acid liquid is diluted with 10 or 12 parts of pure water, and the whole is allowed to settle in a tall flask for a few days. The clear solution, which has a magnificent blue color in very thin layers, is evaporated at a *gentle* heat in a large porcelain capsule, and during the evaporation gradually neutralized with potassium carbonate (or sodium carbonate). The liquid now contains in solution indigo-carmine, which is "indigo-blue-sulphate of potassium or sodium." This may be obtained either by further evaporation, or better, by the further addition of soda, when it separates as a doughy mass. It is the above solution, however, which is referred to in our formula for "Black Ink," on page 153 of our May number.

Artificial and Natural Fruit-Essences. (G. S., Rochester, N. Y.)—The best work on this subject which we are acquainted with—besides the files of various chemical, pharmaceutical, and general scientific papers—is *Aug.*

Gaber, Die Liqueur Fabrikation, etc., 8vo, Wien, 1875, which contains formulæ for most of the essences in demand.

Amyl Nitrite and Nitrate. (J. W. F., Topeka, Kansas).—These two substances are *not* identical, although many practitioners and druggists often use the terms synonymously. This confusion should at once be cleared up, since both substances are used medicinally, and appear to have different therapeutic properties. The *amyl nitrite* $C_5H_{11}NO_2$ is a salt of nitrous acid, HNO_2, in which the hydrogen has been replaced by amyl C_5H_{11}; the *amyl nitrate* $C_5H_{11}NO_3$ is similarly formed by the substitution of amyl for the hydrogen of nitric acid, HNO_3. The action of nitric acid on monatomic alcohols, as methylic (wood-naphtha), ethylic (common alcohol), butylic, amylic (fusel oil), produces in general a nitrite, owing to the decomposition of the nitric acid and the oxidation of a part of the alcohol. If, however, a body is present, during the reaction, which can remove or decompose the nitrous acid formed—as, for instance, urea—a nitrate alone is the result. *Amyl nitrate* has general anodyne properties, and is in small doses a most effective remedy for general nervous excitability. *Amyl nitrite*, however, which has been used for a much longer period, acts by causing paralysis and relaxation of involuntary muscle fibres, and for this reason has become extensively employed in asthma, syncope, and similar affections.

Syrupus antiscorbuticus (J. F, M.D., New York).—This is the *Sirop antiscorbutique* or *Sirop de raifort composé* of the French Pharmacopœia. Its formula is as follows: Scurvy-grass, water-cress, horse-radish (root), all fresh, of each 100 parts; buckbean (marsh-trefoil), fresh, 10 parts, bitter orange peel, 20 parts, canella, 5 p., white wine, 400 p., sugar, 500 parts. Bruise the scurvy-grass and water-cress and comminute the other vegetable ingredients; macerate them for 48 hours with the wine, and distil off 100 parts of alcoholic essence. Express and strain the residue from the distillation; clarify the liquid with white of egg, strain; add 300 parts of sugar and make into a syrup of the spec. grav. (while boiling) 1.270. Strain if necessary. With the rest of the sugar and sufficient water, make a very thick syrup; mix this with the other syrup; allow to cool somewhat; then add the aromatic essence and cover the vessel well till cold. The preparation has tonic, aperient, and depurative effects. It is often used in diseases of children, such as scrofula, cachexia, chlorosis, etc.

Portable Stoves for Druggists. (J. S., Winnipeg, Man.)—Small portable stoves or furnaces, such as are required for heating sand- and water-baths, or for directly heating evaporating dishes, flasks, etc., and in which kerosene is burned, are now made in great perfection, and at very low prices. Formerly it has been almost impossible to obtain any that did not smoke, but this trouble has been gotten rid off. Any wholesale dealer in chemical apparatus, or the wholesale drug-house with which you deal, will be able to furnish them. The best are the "Victor Stove," with 2 burners, $6.00; with 3 burners, $7.00; cheaper kinds cost $2.50 and $3.25, from first hands.

C. G. T. (Pa.)—Your inquiry has been in part answered in our March number, on page 91, but from the tenor of your note it seems that you have overlooked it. If you were to ask us to examine some sample of drug which you suspect to be adulterated, or any question the answer to which would render a service to the profession at large, we should do our utmost to satisfy you. But we can under no circumstances undertake or publish analyses of commercial preparations owned by others, which are uninteresting to pharmacists, and are only asked for with a view to private advantage. This, however, does not apply to dangerous or injurious nostrums, the composition of which we shall not hesitate to make public as soon as it becomes known to us.

Lemon Grass Oil. (K. & M., Leavenworth, Kansas.)—This oil, also called Oil of Verbena, is obtained by distillation from the fresh lemon grass herb, *Andropogon citratus* D. C., *Andropogon Schoenanthus* L., a graminaceous plant, native of Arabia, and cultivated in the Levant and in the tropical parts of Asia. The oil of the latter species is more commonly known as *Oil of Geranium*, *Oil of Ginger Grass*, or *Rúsa Oil*. Another species, *Andropogon Nardus* L., which is much cultivated in Ceylon and Singapore, yields *Citronella Oil*. The oil of *A. Schoenanthus*, or Rúsa oil, is used most extensively for the adulteration of oil of rose, not only by dealers, but even by the original producers.

K. (Barnesville, O.)—Your query will be answered fully in our next.

Hydrobromic and Hydriodic Acids. (A. J. S., Oswego, N. Y.)—We do not know of such a process as Meune's for preparing these acids. But we think there is an error in the name, and it should have been Mène's which was given in *Comptes Rend.*, 1849, and in *Silliman's Journal*, xi., 421. This process is as follows:

Six parts of crystallized sodium sulphite are to be moistened with 1 part of water, and 3 parts of bromine or iodine—as the case may be—are to be added, and heat applied. The gases pass over pure, provided the neck of the retort be loosely plugged with asbestos, to intercept bromine and iodine vapors. The sulphite aids the bromine or iodine in the decomposition of the water, the oxygen of which converts the sulphite into the sulphate, while the hydrogen unites with the halogens iodine or bromine to form a hydracid.

The *Journ. f. Prakt. Chem.*, xv., p 1672 (*Pharm. Jour. Trans.*, May 26th) contains an improved method, discovered by Prof. H. Kolbe, for preparing hydriodic acid. It consists in adding to 10 parts of iodine contained in an atmosphere of carbonic acid gas (anhydride), 1 part of phosphorus, little by little and slowly; on the mixture of di- and tri-oxide of phosphorus thus produced, 4 parts of water are poured. On the application of a gentle heat, an abundance of hydriodic acid is generated, which is *not contaminated* with free iodine; while nearly all other processes suffer from the disadvantage of either giving too much water and too little acid, or of contaminating the product with free iodine.

Pulvis Paregoricus. (O. H., N. Y.)—This powder has once been used as a solid substitute for tinctura opii camphorata, and was originally proposed by Vogler. Its composition was: Starch, 80 grs.; mastic, 40 grs.; powdered opium, 2 grs. The dose ranged from 5 to 30 grains.

Elixir of Eucalyptus. (E. M. B., Dayton, Ohio.)—This may be prepared as follows:

Eucalpytus leaves	4 troy oz.
Alcohol, 85 per cent	q. s.
Oil Orange	ʒ ij.
Oil Cinnamon (Ceylon)	ʒ ss.
Sugar	¾ lb.

Reduce the eucalyptus leaves to a coarse powder, add the oils to 1½ pints of the alcohol, moisten the leaves with a portion of this menstruum, and pack it in a percolating funnel. Pour on the remainder of the alcohol and percolate 1½ pints of tincture, using if necessary an additional quantity of 85 per cent. alcohol. Add the sugar to the mixture and make the product measure 2 pints by adding more alcohol. If alcohol should be objected to, a distilled water may be prepared from eucalyptus leaves, which may be flavored and sweetened as above.

Bleaching of Quills. (O. L., Passaic, N. J.)—Quills may be rendered white and transparent by carefully scraping off the exterior membrane, then immersing them for a few minutes in boiling water and exposing them afterwards to the vapors of chlorine gas, or better, burning sulphur. They must then be well washed and dried very slowly.

Superphosphates. (N. R., Wellington, O.)—Superphosphate of lime is *commercially* a mixture of bones and sulphuric acid rendered dry by various absorbents. The action of sulphuric acid on lime consists mainly in the production of insoluble neutral calcium phosphate, soluble acid calcium phosphate, and insoluble calcium sulphate. The mixture thus produced is a liquid or doughy mass, which requires to be absorbed by some dry pulverulent substance, in order to be practically useful. For your purposes the following manner of proceeding will be suitable: Upon the floor of a barn, or other convenient place, make a circular wall, about 18 inches high and 5 feet in diameter, of sifted ashes. Into the centre of this place 100 pounds of ground bones, deprived by a sieve of the fine powder; moisten the bones with about 1¼ gallons of water thoroughly, and stir them up frequently during a few hours. Then pour over the mixture, constantly stirring, about 11 pounds of common sulphuric acid. After 24 hours the same amount of water and acid is added in the same manner, and after the lapse of another day the fine bone-flour is added, the ashes composing the wall are thrown over the heap, and the whole left at rest for a week. The heap is then opened out and thoroughly mixed with the ashes, and finally passed through a sieve. If not sufficiently dry for this operation, a further quantity of ashes may be added to it.

NEW PATENTS AND LAWS.

[*We will furnish gratis, to subscribers, any information relating to new patents which can be obtained from the Official Gazette of the Patent Office; and for* 50c. *will give copies of the drawings of such as are illustrated. Electrotypes of the illustrations contained in* NEW REMEDIES *will be furnished for* 50c. *per square inch.*

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TRADE-MARKS REGISTERED IN U. S. PATENT OFFICE.

Certificates dated April 3, 1877.

4,514. **Soap.**—R. W. Bell & Co., Buffalo, N. Y. "The pictorial representation of the Centennial Corliss steam-engine."

4,517. **Cosmetic.**—William Hunt, near North East, Md. "The word-symbol 'CONCINNARE.'"

4,520. **Medical Preparation.**—Augustus Kiefer, Indianapolis, Ind. "The word-symbol 'TARAXINE.'"

4,523. **Soap.**—Omer Tousey & Co., Indianapolis, Ind. "The word-symbol 'WRINKLE.'"

4,524. **Refined Petroleum Oil.**—Eliphalet Wickes, Eaglewood, N. J. "The fanciful words 'WICKES ECLECTIC.'"

Certificates dated April 10, 1877.

4,526. **Soap.**—John H. Keller, New Orleans, La. "The word-symbol 'SOAPINA.'"

4,529. **Cleaning Compound.**—Mosury Young & Co., Boston, Mass. "The word-symbol 'SAVOGRAN' and the letter 'S.'"

4,532. **Baking Powder.**—Rhorer Christian & Co., St. Louis, Mo. "The word-symbol 'CHARM.'"

Certificates dated April 17, 1877.

4,541. **Hog Medicines.**—Winchester D. Scott, Philadelphia, Pa. "The representation of a hog."

4,542. **Nursing Bottles.**—Whitall, Tatum & Co., New York, N. Y., and Philadelphia, Pa. "The word-symbol 'PHŒNIX' used in connection with the words 'Nursing Bottle.'"

4,544. **Medical Compound.**—E. J. Burton & Co., Homerville, Ga. "The twig with leaves or berries, and the scroll or band as represented."

4,546. **Soap.**—Henry E. Burger, Brooklyn, E. D., N. Y. "The word-symbol 'COMMON SENSE.'"

4,549. **Illuminating Oil.**—P. J. Fitzgerald & Co., Philadelphia, Pa. "The letters 'E. R. I. O.'"

4,554. **Soap.**—Gowans & Co., Buffalo, N. Y. "The word-symbol 'RAILROAD.'"

Certificates dated April 24, 1877.

4,573. **Olive Oil.**—Caswell, Hazard & Co., New York, N. Y., and Newport, R. I. "The representation of a hat commonly known as a bishop's mitre, colored gold, black, and white, upon a white ground."

4,574. **Extract of Beef Compounds.**—Charles Delacre, Brussels, Belgium. "The word-symbol 'LA PLATA,' and the representation of a bullock reclining."

4,580. **Medical Preparation.**—Charles H. Phillips, New York, N. Y. "The arbitrarily formed word-symbol 'PHOSPHO-NUTRILINE.'"

4,582. **Soap.**—Schultz & Co., Zanesville, Ohio. "The German word-symbol 'VATERLAND.'"

Certificates dated May 1, 1877.

4,587. **Perfumery.**—George Jaques, Boston, Mass. "The words 'THE RIVAL OF LUBIN'S.'"

4,594. **Medicines.**—J. T. Reed & Co., Boston, Mass. "A pentagonal figure, within which is a triangular figure, and within the triangle is a circle with a horizontal line or band drawn nearly across it. Outside the triangle, inside the pentagon, are the words 'Reed's East India Remedies.'"

4,600. **Remedial Agent.**—Julia Blankman, New York, N. Y. "The word-symbol 'MAGNETIC.'"

4,601. **Soap.**—Andrew T. Crawley, Chelsea, Mass. "The word-symbol 'BURDED.'"

4,607. **Mixed Paints.**—A. H. Holden & Co., Chicago, Ill. "The letters C. E. P. W. in the form of a monogram, and the firm name A. H. Holden & Co."

4,608. **Paints.**—Harrison Brothers & Co., Philadelphia, Pa. "A black surface containing a shield of contrasted color, the latter embodying one or more tints of color."

4,609. **Paints.**—The same. "A polygon being substituted for a shield."

4,611. **Soap.**—Robinson Brothers & Co., Boston, Mass. "The fanciful words 'GOLD DOLLAR.'"

Certificates dated May 8, 1877.

4,619. **Mineral Water known as Vichy.**—Saratoga Vichy Spring Company, Saratoga Springs, N. Y. "A monogram composed of the letters V. S., and the words 'THE SARATOGA.'"

◆

LABELS.

Certificates dated March 6, 1877.

1,022. **"Sapo. A Saponaceous Tooth Elixir."** James King, Jr., New York, N. Y.

1,023. **"Swiss Health-Tea."** John Pfenninger, Alton, Ill.

1,025. **"Dr. Shiloh's System Vitalizer."** Schuyler C. Wells, Leroy, N. Y.

Certificates dated April 10, 1877.

1,027. **"Brain Food."**—John H. Allen and Richard A. Cunningham, New York, N. Y.

1,028. **"Economical Soap."**—Charles F. Kopitzsch & Son, Pottsville, Pa.

1,030. **"The Stock Condition Powder."**—Painter & Calvert, San Francisco, Cal.

1,031. **"Instantaneous Disinfectant and Deodorizer."**—John W. Reay, Brooklyn, N. Y.

1,032. **"Self-Recommending Eye Salve for Diseased Eyes."**—Christian Sander, Brownsville P. O., Ohio.

Certificates dated April 17, 1877.

1,034. **"Eggleston's Lubricating Oil."**—Jesse S. Eggleston, Auburn, N. Y.

1,035. **"Phœnix Nursing Bottle."**—Whitall, Tatum & Co., New York, N. Y.

1,037. **"Horsford's Acid Phosphate."**—Rumford Chemical Works, Providence, R. I.

Certificate dated April 24, 1877.

1,039. **"The Electro-Magnetic Anodyne."**—Nathan Haas, Dayton, Ohio.

Certificates dated May 1, 1877.

1,042. **"Beam's Domestic Medicines."**—Joseph C. Beam, Johnstown, Pa.

1,043. **"Dr. N. Weaver's Concentrated Extract Fireweed, or Scrofula Cure."**—James Lester Belden, Geddes, N. Y.

Certificates dated May 8, 1877.

1,048. **"Chocolated Tablets of Chlorate of Potass."**—George P. Brooks, Boston, Mass.

1,049. **"Asiatic Insect Destroyer."**—James J. Cassidy, Boston, Mass.

1,050. **"Canker Cure Bitters."**—Willard C. Collins, Bucksport, Me.

1,051. **"Ph. Dornbusch's Champagne of Herbs."**—Philip Dornbusch, Nashville, Tenn.

1,053. **"Dr. Ira J. Haskins' What is it? Cures Neuralgia, Catarrh in the Head, etc."**—Ira J. Haskins, Belvidere, Ill.

1,056. **"Wright's Sure Cure for Rheumatism."**—Edward A. Wright, Frederick Nielsen, and Edward Hodges, Pent Water, Mich.

PATENTS.

Patents granted March 13, 1877 (continued).

188,428. **Processes of Extracting Oleo-Margarine from Animal Fats.**—A. Smith, Cincinnati, Ohio, assignor to Amos Smith & Co., same place.

188,429. **Processes of Reducing Animal Fats.**—A. Smith and L. Smith, Cincinnati, Ohio, assignors to Amos Smith & Co., same place.

Patents granted March 20, 1877.

188,594. **Suppository Molds.**—Henry W. Comstock, La Fayette, Ind.

188,606. **Filters.**—Victor Dorder, Philadelphia, Pa.

188,471. **Grinding and Triturating Apparatus.**—Jos. J. Lancaster, London, Ontario, Canada. The combination of a power-arm adjustably attached to rotating shaft, with mortar and pestle provided with band having projecting slotted bar, whereby the pestle is given a rotatory motion, while at the same time it is allowed extension within the mortar by centrifugal force.

Re-issues.

7,559. **Processes of Purifying Paraffine Wax.**—F. H. Byerley, Cleveland, Ohio. Patent No. 132,353, dated October 22, 1872.

Patents granted March 27, 1877.

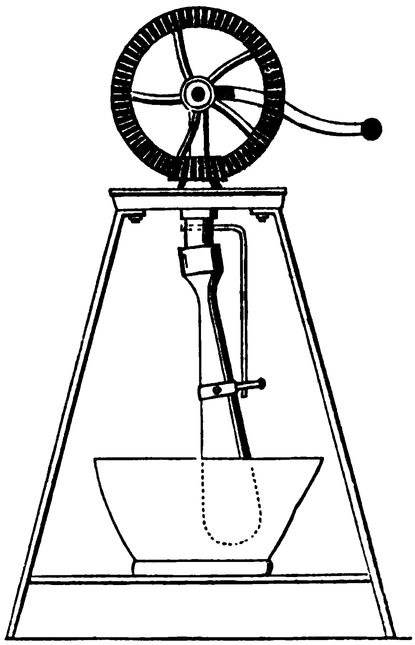
188,762. **Drawer Pulls.**—L. P. Whiteman, New York, N. Y., and B. M. Gerardin, Jersey City, N. J., assignors to W. D. Whiteman, New York City.

188,766. **Insect-Destroying Compositions.**—E. Bagnicki and A. Grocschel, Jersey City Heights, N. J. A compound consisting of naphtha, benzine, oil of turpentine, oil of hemlock, and alcohol.

188,801. **Apparatus for Manufacturing Hydrated Sulphurous Acid.**—W. Davidson Jones, Hagaman's Mills, N. Y., assignor of one-half his right to H. H. Pawling, same place.

188,822. **Bottle-Washers.**—A. Fisher, New York, N. Y.

188,849. **Bungs for Barrels.**—E. F. Bonaventure, New York, N. Y., assignor of forty per centum of his rights to F. Ochs, same place.

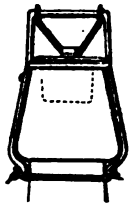


No. 188,471.

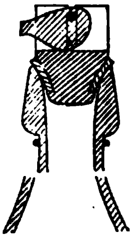
188,901. **Eyeglasses.**—Henry H. Hempler, Washington, D. C.

188,905. **Measuring-Pumps.**—Charles Hilderbrand, Youngstown, Ohio.

188,970. **Bottle-Stoppers.**—D. G. Smith, Carbondale, Pa., assignor of one-half his right to G. B. Smith, Dunmore, Pa. In combination with a stopper for a bottle or fruit-jar, a yoke or bail having spring bars bent at *e'e'*, a stirrup D, and a plate C, notched at *ce*.



188,970.



7,581.

189,007. **Cork-Fastening Bottle-Necks.**—John Young, Amsterdam, N. Y.

Reissued.

7,581. **Bottle-Stoppers.**—D. T. Robinson, Boston, Mass., assignor by mesne assignments to H. W. Putnam, Bennington, Vt. Patent No. 60,424, dated Dec. 11, 1866.

Patents granted April 3, 1877.

189,091. **Paint Compositions**—Sam'l B. Fisher, Pleasant Unity, Pa. [Consists of Rosendale cement, water-glue, linseed-oil, and benzine.]

189,103. **Eyeglasses.**—Ira H. Johannes, Washington, D. C., assignor of one-half his right to R. T. Waters, Baltimore, Md.

189,137. **Apparatus for Cooling Liquids.**—A. D. Puffer, Boston, Mass.

189,231. **Apparatus for Giving Hot-Air and Other Baths.**—T. Kuch, New York, N. Y.

189,234. **Labelling Machines.**—C. Koch and S. L. Solomon, New York, N. Y. [For labelling bottles.]

189,269. **Supplying Beer-Kegs with Bicarbonate of Soda.**—J. J. Schillinger, New York, N. Y. [The bung is made with a chamber containing the chemical, so arranged that when needed, the latter can be pushed into the keg.]

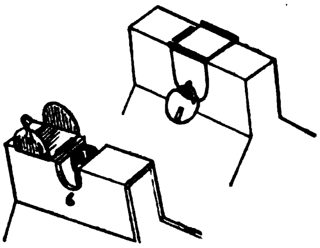
Reissued.

7,587. **Locking-Cases for Stop-Cocks.**—H. C. Meyer & Co., New York, N. Y., assignors of J. H. Morris, executor of E. T. Hall, deceased. Patent No. 89,930, dated May 11, 1869.

189,448. **Stills.**—Thos. Gaff, Aurora, Ind.

189,491. **Packing-Cases for Demijohns, etc.**—George W. Peck, Brooklyn, N. Y.

The shield having a hinge at one side, by which it is united to the top surface of the ridge of the packing-case, and provided with wings, that pass down at each side of the ridge to close the aperture therein.



189,491.

189,504. **Processes for Clarifying Sugar.**— John Schwartz, Pelham Street, Mile End New Town, England.

Cold water or liquor reduced to a temperature of about 32° Fahrenheit, is sprayed upon sugar under treatment in moulds of centrifugal machines, to clarify it without melting the sugar-crystals.

189,511. **Eye-glasses.**—John S. Spencer, New York, N.Y. [Suspending-hook attached to and forming part of eye-glass frame.]

189,538. **Production of Coloring Matters from Aniline.**—Justus Wolff, Wyke, near Bradford, and Ralph Betley, Wigan, England.

1. The production of a dye or series of dyes from aniline, or from toluidine, or from mixtures of the same, and either with or without the employment of xylidine, together with nitro-benzole or nitro-toluol, or mixtures of the same, in conjunction with metallic salts.

2. The production of coloring matters from aniline in conjunction with nitro-benzole, by the employment of hydrochloric acid, or of other suitable hydrogen acids.

3. The productions of coloring matters from aniline, by the employment of arsenic acid, or of other metallic oxygen acids.

4. The production from aniline, partially or completely neutralized or saturated by hydrochloric acid, or by any other suitable acid, and treated in the manner described, of coloring matters soluble in water or in acidulated water, at an elevated temperature, the same being capable of dyeing various shades of black and gray on wool, cotton, and other fabrics.

Patents granted April 10, 1877.

189,345. **Liquid-Measures.** — S. R. Dummer, Jersey City, N. J.

189,356. **Exercising Machines.**—H. F. Hanson and F. O. Buzzell, Bangor, Me.

189,364. **Liquid Filters.** — M. Lansburgh, Baltimore, Md.

189,401. **Petroleum Products and Methods of Obtaining the same.**—Herbert W. C. Tweddle, Pittsburg, Pa.

1. As a new article of manufacture, the petroleum product, consisting in washing the orange-colored resinous oily product obtained toward the close of the distillation of tar residuum, and subsequently driving off the solvent and recovering the heavy oil.

189,539. **Exercising Machines.**—George W. Wood, New York, N. Y., assignor to M. M. Stanfield, and H. W. Wood, same place.

189,541. **Processes and Apparatus for Rendering Fat.**— William E. Andrew, New York, N. Y.

Patents granted April 17, 1877.

189,578. **Apparatus for the Redistillation of Spirits.** P. G. Roony, Cincinnati, Ohio.

189,594. **Syrup and Sugar Filters and Processes of Cleansing the Same.**—W. J. Allen, Buffalo, N. Y.

189,611. **Valve Nozzles for Bottle Stoppers.**—C. Cristadora, New York, N. Y.

189,669. **Bottle Washers.**—E. C. Furbeville, St. Louis, Mo., assignor of one-half his right to Geo. S. Shyrock, same place.

189,691. **Nursing Bottles.**—Julius Briere, Alençon, France.

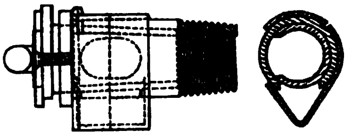
189,699. **Tooth Brushes.**—W. A. Coakley and S. W. Lloyd, Washington, D. C.

189,764. **Flavoring Aerated Beverages.**—John Matthews, New York, N. Y. The process consists in charging the carbonated liquid with the essential oils, and then adding the syrup to sweeten them when bottled or otherwise drawn off.

189,771. **Water Filters.**—C. C. Morgan, Cincinnati, Ohio, assignor to himself, J. Heyl, and V. Heyl, same place.

Patents granted April 24, 1877.

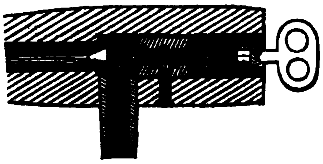
189,839. **Drip Cup for Faucets.**—F. Brigham, Warren, Mass. The combination of the Drip-cup with the revolving spigot.



189,839.

189,860. **Draft Faucets.**—Mat Hogan, Hartford, Conn.

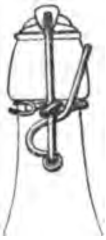
189,904. **Faucets.**—L. A. Rebasz, Lockport, N. Y., assignor to F. C. Lillis, and N. E. Badyle, same place.



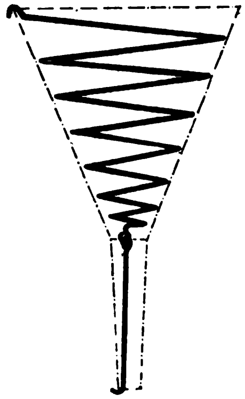
189,904.

189,906. **Bottle Stoppers.**—C. Sedgwick, New York, N. Y., assignor to H. W. Putnam, Bennington, Vt. The arms of the bottle stopper yoke are arranged in the eyes of the neck wire, and having the cam-lever pivoted to them below the neck wire.

189,929. **Filter Rack.**—B. Fenner, Westfield, N. Y. A filter rack, consisting of a main part of spiral wire, having suitable devices for being attached to the top and bottom of a funnel.



189,906.

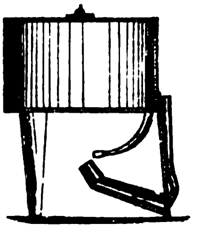


189,929.

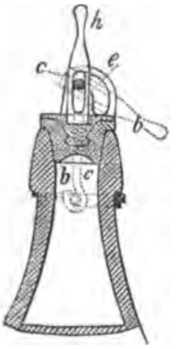
189,963. Tooth-Brushes.—Sam'l Stevens, Boston, Mass. The central row in the brush is made of Tucum fibre; the outer rows of bristles.

Patents granted May 1, 1877.

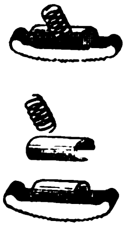
190,133. **Spectacles.** I. S. Doten, Bristol Station, Ill.
190,149. **Health Lifts.**—A. W. Lozier, Orange, N. J., Assignor by mesne assignments to Mrs. J. de la M. Lozier, New York, N. Y.
190,150. **Health Lifts.**—The same.
190,151. **Exercising Machines.**—The same.
190,183. **Paint Composition for Roofs.**—A. Blaisdell, Nashua, N. H.
190,241. **Combined Spirit-Lamp and Blow-Pipe.**—S. Needles, Holden, Mo., assignor to I. Nichols and B. F. Metzler, same place. The wick contained in the elbow-pipe is supplied with alcohol from the main cup by the small feed-pipe.



190,241.



190,254.



190,403.

190,244. **Urinals for Invalids.**—Richard H. Olmstead, Naper City, Cal.
190,254. **Bottle-Stopper Fastenings.**—F. Schlich, New York, N. Y. The lever *h* having a slot, and the yoke *c* passing through the slot in the lever, in combination with the bottle-stopper *a*, *b*, bearing *e* and fulcrum projection on the stopper for the end of the lever.
190,262. **Apparatus for Weighing Liquids.**—J. G. Vallentine, Florence, Mass., assignor to himself and E. Vallentine, same place. The combination of the frame A, having the tubular handle C, spring F, scale G, lever E, and receptacle B.
190,279. **Electro-Voltaic Belts.**—James Bryan, New York, N. Y.
190,292. **Locking Devices for Bottles.**—Edward M. Deey, New York, N. Y.
190,295. **Faucets.**—Paul E. Dummer and Peter E. Malstrom, New York, N. Y.
190,301. **Paint Compositions.**—J. Fitzer, Rolla, Mo.
190,356. **Faucets.**—F. Messmer, St. Louis, Mo.
190,358. **Bottles and Stoppers.**—Jas. H. Parker, Newark, N. J.
190,392. **Crutches.**—Lawrence F. Weldon, New York, N. Y.
190,395. **Soda-Water Apparatus.**—Fred. W. Wiesenbrock, Brooklyn, N. Y.
190,395. **Automatic Carbonic-Acid Gas-Generators.**
190,403. **Eye-Glasses.**—S. Oppenheimer, Washington, D. C.—Eye-glasses provided with nose-clamps which are each connected with the glass-frame by means of a spiral spring.

PRESCRIPTIONS AND FORMULÆ.

Standard Formulæ for Certain New Preparations.

(Continued from page 156.)

1. *Neutral Sulphate of Eserine.* A given quantity of eserine (or physostigmin) is directly and *exactly* saturated with sulphuric acid diluted with nine parts of water. Or an ethereal solution of eserine is shaken with a measured quantity of dilute sulphuric acid of known strength, sufficient for *exact* neutralization. Either solution is immediately evaporated to dryness at a gentle heat. It is usually obtained amorphous, although it may, with great difficulty, be obtained crystalline. It is very deliquescent and must be preserved in a well-closed vial. The dose of the salt is 0.001 gm. (about $\frac{1}{64}$ grain) internally. For producing contraction of the pupil (myosis*) 0.02–0.05 gm. ($\frac{1}{3}$—$\frac{3}{4}$ grains) are dissolved in 10 gm. (162 min.) of water.

2. *Bromide of Iron (Ferrous Bromide).*

Iron-filings........................ 40 gm.
Distilled water....................216 gm.
Bromine........................... 80 gm.

To the water, contained in a flask, is added first the bromine, and gradually the iron. Towards the end a gentle heat is applied, until the liquid assumes a fine green color. The whole solution, including the uncombined iron, is immediately transferred to a glass-stoppered bottle. As it does not keep long, it is best to at once make it into syrup or into pills. It contains $\frac{1}{4}$ of its weight of bromide of iron. One gramme of pure ferrous bromide is precipitated entirely by 1.56 gm. of silver nitrate.

3. *Syrup of Bromide of Iron.*

Normal Solution of Bromide of Iron (see No. 2.).....................15 gm.
Syrup.............................985 gm.

Mix. 20 gm. of this syrup, or one tablespoonful, contain 0.10 gm. (1.6 grains) of bromide of iron.

4. *Dialysed Iron.*†

Solution of ferric chloride (sesquichloride), spec. gr. 1.261.............100 gm.
Water of ammonia, spec. gr. 0.923.. 35 gm.

Add the latter very gradually to the former. The precipitate formed is redissolved at first very rapidly, then more slowly, but finally it is again entirely dissolved, and the solution is now transferred to a dialyser, the water surrounding which must be frequently renewed. After a while, the highly colored ferruginous solution ceases to precipitate silver nitrate, or to have an acid reaction. It has also lost the characteristic taste of iron. 10 c.c. of the product are evaporated to dryness to ascertain the percentage of ferric oxide, and the remaining solution is diluted with water until the final product contains 10% of ferric oxide.

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* Incidentally we may remark, that the spelling of this word should, perhaps, be rather *meiosis* than *myosis*. In the latter case it would be derived from μύω, "to close the eye," and is quite appropriate; but we are not aware that a word μύωσις is used in this sense. The expression ἡ τῆς κόρης μείωσις, "the diminution of the pupil," occurs, and μείωσις, "*diminution*," is derived from μείων, "smaller," the comparative of μικρός, "small." It has been written meiosis, meosis, and miosis.

† Two other formulæ for preparing "Ferrum Dialysatum" will be found on page 57 of our February number.

5. *Solution of Ferrous Chlorhydro-phosphate.*

Ferrous chloride (protochloride)	5 gm.
Phosphoric acid (tribasic)	5 gm.
Distilled water, q. s. to make 1 litre.	

20 gm. of this solution contain 0.10 gm. of the iron salt.

6. *Syrup of Ferrous Chlorhydro-phosphate.*

Ferrous chloride (protochloride)	5 gm.
Phosphoric acid (tribasic)	5 gm.
Distilled water	350 gm.
Sugar	640 gm.

Dissolve the ferrous chloride in the water, add the phosphoric acid, and dissolve the sugar in the solution with a gentle heat. 20 gm. of this syrup contains 0.10 gm. of the iron salt.

7. *Solution of Ferric Chlorhydro-phosphate* and

8. *Syrup of Ferric Chlorhydro-phosphate* are prepared by substituting for the green ferrous chloride (protochloride) the brown ferric chloride (sesquichloride).

9. *Glycerole of Subnitrate of Bismuth.*[*]

Glycerole of starch	90 gm.
Bismuth subnitrate	10 gm.

Mix carefully without heat.

10. *Iodoform.*

Potassium carbonate (pure)	2 parts.
Iodine; rubbed to powder	2 parts and q. s.
Alcohol, 84%	5 parts.
Distilled water	15 parts.

The four substances are introduced into a flask and heated until the liquid is colorless. One-half part of powdered iodine is now added, the liquid heated again, and further small quantities of iodine are introduced, until the liquid retains a brownish tint. This is decolorized by the addition of one or two drops of caustic potassa, and by applying cold, crystals of iodoform are separated. They are collected on a filter, slightly washed with distilled water, dried on blotting paper and placed into well-closed vials.

On evaporating the mother-water, a large quantity of potassium iodide is produced. Iodoform should not yield any fixed salts to water, should be entirely soluble in boiling alcohol, and leave no residue on ignition.

11. *Syrupus Iodo-tannicus* (Syrup of Iodo-Tannin).

Iodine	1 gm.
Alcohol, 90%	11 gm.
Syrup of krameria	988 gm.

Dissolve the iodine in the alcohol, and mix the solution with the syrup. It requires about twenty-four hours at ordinary temperatures, until the iodine has entered into combination; but on warming to 50° or 60° C. this may be accomplished at once. This syrup contains 1 part of iodine in 1,000 parts.

12. *Syrup of Iodide of Starch.*

Iodide of starch, soluble	10 gm.
Distilled water	350 gm.
White sugar, granulated	640 gm.

Dissolve the iodide of starch in the distilled water and filter. Dissolve in this the sugar by means of a very gentle heat. 20 gm. or a tablespoonful of this syrup contains about 0.02 gm. (⅓ grain) of iodine.

Soluble Iodide of Starch is prepared by dissolving one part of iodine in 90% alcohol, adding to it nine parts of nitrated starch,[†] and evaporating the mixture on the water-bath at a gentle heat. The residue is triturated with water to a smooth paste, which is heated in a flask on the water-bath, until it becomes entirely soluble in water, which is ascertained by removing a sample from time to time, and trying its solubility.

13. *Iodised Syrup of Horseradish.*

Iodine	1 gm.
Alcohol, 90%	11 gm.
Syrup of horseradish, compound[*]	988 gm.

Dissolve the iodine in the alcohol and add the solution to the syrup. After twenty-four hours combination has taken place, and the original color of the syrup has been restored.

Aromatic Elixir of Licorice (J. P. Remington).

Cinnamon (in fine powder)	6	parts.
Star anise " "	4	"
Coriander " "	7	"
Caraway " "	7	"
Tonqua " "	4	"
Canella " "	2	"
Nutmeg " "	2	"
Cloves " "	2	"
Ammoniacal glycyrrhizin	40	"
Oil of orange (fresh)	2	"
Alcohol	532	"
Syrup	1000	"
Water	475	"

Mix the oil of orange with the alcohol and water, and percolate the aromatics, recovering 1,000 parts of percolate by pouring sufficient water on top to accomplish the purpose. Dissolve the ammoniacal glycyrrhizin in a small quantity of boiling water, and add to the rest, after mixing with the syrup.—*Am. J. of Pharm.*

Basham's Mixture (*Am. J. of Pharm.*).

Tinct. ferri chloridi	partes	3
Acid. acetici dil	"	4
Liq. ammonii acet	"	32
Curaçao	"	8
Syrup. cort. aurant	"	12
Aquæ q. s. ad	"	64

Vaginal Gelatine Suppositories of potassium iodide, zinc sulphate, alum, copper sulphate, morphia salts, salicylic acid, etc., have been recommended as being much superior to those made with cacao butter, because the remedial agents are contained in them in the state of solution, instead of mere mechanical division. Tannic acid and ferric preparations, as Liquor Ferri chloridi, Monsel's solution, etc., should not be combined with gelatine, as the result would be the formation of difficultly soluble compounds.

Solution of Bromhydrate of Conia, for hypodermic use.

Bromhydrate of conia, cryst.	0.50 gm.
Alcohol, 90%	1.50 "
Cherry-laurel water	23.00 "

1 gramme contains 2 centigrammes (0.02 gm.) of the salt; or 1 drop contains about 1 milligramme (0.001 gm.)—*Bull. de Thér.*

Treatment of Cholera Infantum. (King.)

Leptandrin	6 grs.
Quinia sulphate	3 "
Camphor	1½ "
Ipecac	½ "

Mix and divide into 12 powders, of which one may be given every two or three hours, to be continued, if necessary, for several days.

Tichborne's Solution of Atropia.

Dissolve 2.7 grains of atropia and 1.3 grains of salicylic acid in 1 fluid ounce of water. The solution, containing salicylate of atropia, may be preserved without difficulty, and is not irritating.

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[*] This is different from Balmanno Squire's *Glycerole of Nitrate of Bismuth*, which is a *solution* of the *crystalline* nitrate in glycerine. The above, however, is merely a mixture.

[†] Nitrated starch is starch in which a portion of the hydrogen has been replaced by NO_2 (nitryl). It is prepared by mixing starch with nitric acid of spec. grav., 1.500, forming a colorless jelly, which is placed into water, and yields a white curdy insoluble substance, called *xyloïdin*. De Vrij's *pyroxam*, obtained by placing starch, dried at 125° C. in vacuo, into a mixture of nitric and sulphuric acids, and treating the product with water, is either identical or homologous to the former.

[*] See Formula under Notes and Queries, p. 184.

Correction. One of our subscribers has been kind enough to call our attention to a couple of errors in a formula on page 373 of the volume of NEW REMEDIES for 1875. We therefore reprint the formula as it should have read:

TONIC IN ANÆMIA.

℞	Tinct. ferri chloridi	f. ʒ iij.
	Potassii chloratis	ʒ i.
	Solut. strychniæ sulph. (gr. i. ad f. ℥ i.)	f. ʒ ij.
	Syrupi simplicis	f. ʒ iv.
	Aquæ puræ q. s. ad	f. ʒ iv.

M. Sig. Two teaspoonfuls, three times daily, as a tonic in anæmia.—DR. D. S. BRAINARD.

ITEMS.

The American Pharmaceutical Association.—The twenty-fifth annual meeting of the American Pharmaceutical Association will assemble in the City of Toronto, Canada, on Tuesday, the 4th of September, 1877, at 3 o'clock, P.M.

Members of the Association who have accepted any of the Queries, or who will have any volunteer essay to present to the Association, will please forward to the Chairman of the Committee on Papers and Queries, William McIntyre (2229 Frankford avenue, Philadelphia), a synopsis of the same, previous to the meeting, as required by the by-laws of the Association.

Candidates for membership will please forward their applications, properly filled up, to the Chairman of the Executive Committee, George W. Kennedy, Pottsville, Penna.

It is also requested that the delegates from the various bodies represented in the Association will have their credentials ready to be handed in at the first meeting.

CHARLES BULLOCK,
President.

Philadelphia, June 1, 1877.

The Medical Society of the State of New York.—Dr. Squibb, the President-elect of the Medical Society of the State of New York, has adopted the plan now becoming common among similar societies, of announcing beforehand the business to be transacted at the coming meeting on the 19th inst. From his circular note we learn that the following papers on therapeutical topics are to be presented: "The use of Ergot," by Alex. H. Crosby, M.D., of Lowville, Louis Co.; "Nitrite of Amyl in Pertussis," by George Bayles, M.D., of New York; "Jaborandi," by Alexander Hutchins, M.D., of Brooklyn; "Tar Fumigations in Gangrenous Sores," by Lewis Post, M.D., of Lodi; "The Cold Bath in Scarlatina," by C. H. Giberson, M.D., of Brooklyn; "Vaginal Injections," by Frank P. Foster, M.D., of New York; "Hydrochlorate of Ammoniæ—Ammoniæ-murias," by C. G. Pomeroy, M.D., of Newark, N. Y.; "Action of Mercury," by H. N. Eastman, M.D., of Owego; and "Opium Inebriety and the Hypodermic Syringe," by S. F. McFarland, of Oxford.

Massachusetts College of Pharmacy.—The following named officers were elected at the recent annual meeting: *President*, S. M. Colcord; *Vice-Presidents*, T. L. Jenks, Wm. S. Folger; *Recording Secretary*, D. G. Wilkins; *Corresponding Secretary*, G. F. H. Markoe; *Treasurer*, E. L. Patch; *Auditor*, Chas. A. Taft; *Trustees*, J. S. Melvin, J. T. Leary, Henry Canning, Chas. I. Eaton, I. B. Patten, G. H. Cowdin, T. F. Stacey, S. C. Tozzen. After the destruction of the College building, January, 1877, the School of Pharmacy was enabled to continue the courses of instruction through the friendly aid of the officers of the Massachusetts Institute of Technology, who placed their chemical lecture room and apparatus at the service of the school for the balance of the session of 1876-77. The eleventh annual commencement took place in the parlor of the Revere House on the evening of May 10, 1877. A levee was held during the early part of the evening, and after an hour passed in social intercourse, the President, S. M. Colcord, conferred the degree of graduate in pharmacy upon the following named gentlemen: Henry Knox Appleton, jr., Edwin Porter Burley, George William Flynn, Geo. Melvin Hoyt, Frank Bassett Meade, Jonathan Washburn Pratt, Francis Cook Simson, George Howland Stoddard, and John Townsend. A certificate of proficiency was presented to Miss Louise Baker. The valedictory was delivered by Prof. G. F. H. Markoe.

The graduating exercises over, the company, to the number of one hundred, adjourned to the "dining hall," and partook of an elegantly served dinner, given in honor of the class of "'77." The "good things" for the inner man having been duly discussed, President Colcord then called the attention of the ladies and gentlemen present to the many difficulties that had beset the progress of the college; her steady advance in influence and usefulness, not only in promoting pharmaceutical education, but also in the equally important matter of encouraging social intercourse and fostering good fellowship in all branches of the drug trade. He said that the festival had brought together many representative men, and he then called upon Prof. Markoe to act as toast-master. W. J. Cutler, Esq., spoke for the Boston Druggists' Association, Profs. J. M. Merrick and W. P. Bolles for the School of Pharmacy, Messrs. S. Carter and T. K. Gilman for the Wholesale Drug Trade, Mr. E. S. Kelly for the Alumni Association, Mr. Geo. M. Hoyt for the Class of 1877, Miss Baker for the "Lady Pharmacists," Mr. W. S. Folger for the Board of Trustees. A very amusing speech by Dr. T. L. Jenks kept the company in great glee while he spoke. The venerable Daniel Henchman, the oldest apothecary in Boston, was present and made an excellent address, full of interesting facts of the way in which pharmacy was practiced in Boston when he began his career as an apothecary 75 years ago. Mr. Thos. Doliber and Mr. Geo. Sears also spoke in response to calls from the toast-master. Letters were read from W. B. Blanding, President of the Rhode Island Pharmaceutical Association, A. L. Calder, President of Rhode Island State Board of Pharmacy, Prof. P. W. Bedford, of New York, all of whom expressed many regrets at their inability to be present. The famous Temple Quartet added greatly to the enjoyment of the occasion by the excellent music with which they favored the company. It was past midnight when the merry party broke up by singing "Auld Lang Syne," thus closing the most successful "social re-union" ever held under the auspices of the Massachusetts College of Pharmacy.

The presence of the ladies had much to do with the happy way in which the affair passed off.

The Philadelphia County Medical Society and the U. S. Pharmacopœia.—At a large meeting of this Society, held in May, the following resolutions were adopted as offered by Dr. Nebinger:

Resolved, That in the opinion of the Philadelphia County Medical Society, the propositions of Dr. Squibb to modify the *period* of revision of the United States Pharmacopœia and other proposed reforms, are deserving of careful consideration by the Medical and Pharmaceutical professions.

Resolved, That in the judgment of this Society, such reforms and modifications of ancient plans can be more safely entrusted to the National Convention of the Pharmacopœia and its committee of revision, than to any new organization.

Resolved, That the action of this Society be officially transmitted to Dr. John C. Riley, President of the Pharmacopœial Convention at Washington, to Dr. Bowditch, President of the American Medical Association at Chicago, and to Dr. Squibb of Brooklyn.

Resolved, That these resolutions be also published in the *Druggists' Circular*, *Chicago Pharmacist*, *Medical News*, *Philadelphia Medical Times*, *Medical and Surgical Reporter*, *The American Journal of Pharmacy*, *New York Medical Record*, and NEW REMEDIES, as soon as possible.

Dr. Albert H. Smith presented the following resolutions, which were unanimously adopted:

Resolved, That this Society does not recognize the legal or moral right of the American Medical Association to assume the work of issuing a Pharmacopœia, as proposed, nor its fitness for the work, if such right existed.

Resolved, That its delegates to the American Medical Association be instructed to use every proper means, by their votes and influence, to prevent the consummation of the plan proposed by Dr. Squibb.

The Medical Society of the County of New York.—At the stated meeting in May of the above Society, the following resolutions were adopted:

Resolved, That the Medical Society of the County of New York approves of the project of putting the management of U. S. Pharmacopœia into the hands of the American Medical Association.

Resolved, That the delegates from this Society to the forthcoming meetings of the Medical Society of the State of New York and of the American Medical Associations, be instructed to vote in favor of any feasible scheme for carrying said project into effect.

"The Nova Scotia Pharmaceutical Society."—The pharmacists of Nova Scotia have organized an association for which they have obtained an Act of Incorporation.

According to this act, until December next, all persons who at the time of the passage of the act were actually in business as chemists and druggists, and all persons who at that time had served at least seven years at the business, and had attained the age of twenty-one years, are entitled to registration, on payment of a fee of four dollars, which must be continued yearly. All other persons, except alumni of other colleges, will be required to pass an examination before a board of five, two of whom are appointees of the Provincial Government, and the balance of the "Pharmaceutical Council."

The candidate for registration has, also, to prove that he has served three years as an assistant; during one of which he must have had practical experience in dispensing.

There is no restriction upon the sale of poisons by registered druggists, but the law prohibits any other person selling, attempting to sell, having exposed for sale, or keeping open shop for retailing, dispensing, or compounding the articles enumerated in a schedule attached to the act.

The officers elect of the Association are, *President*, H. A. Taylor; *Vice-President*, H. L. Atkins; *Treasurer*, A. Forsyth; *Secretary*, W. H. Webb; *Registrar*, J. H. Angwin; *Councillors*, Messrs. Kent, Forsyth, Fraser, Jackson, Walsh, Webb (W. H.), Atkins, Angwin, McKenzie, Simson, Taylor and Webb (J. W.); *Examiners*, Messrs. Atkins, Simson, Wadell, Webb (J. W.), and Dr. Reid.

College of Pharmacy of the City of New York.—The next quarterly meeting of the College will be held on Thursday, June 21st, at 8 P.M., in the lecture-room of the college. Among the subjects which will come up for discussion are the revision of the U. S. Pharmacopœia; and a discussion of the propositions to be laid before the next Convention of Teaching Colleges, respecting uniformity of regulations in regard to teaching, admission, and graduation of students, etc. The members are particularly requested to appear promptly.

A New Aperient has been invented in Holland. It is composed of gin, dried shells of bitter almonds, roots of gentian, rhubarb, cinchona, etc. It is reported to have advantages over other aperients.

Remedy for Sea-Sickness.—The *British Medical Journal*, without being able to name its authority, says that it is alleged that it has been ascertained that very small doses of apomorphia, taken in water, is a cure for sea-sickness.

Conversazione of the London Pharmaceutical Society.—At a recent social gathering of the members and friends of this Society, at the South Kensington Museum, about 2,500 persons were present.

London Pharmaceutists are making an effort to close their establishments at half-past eight o'clock in the evening, and to discourage Sunday trading when it can be avoided. This, of course, is not intended to interfere with the proper service in cases of emergency.

Dr. T. R. Frazer is spoken of as candidate for the Chair of Materia Medica in the University of Edinburgh.

Medicinal Plants of Scotland.—At the late meeting of the North British Branch of the Pharmaceutical Society, Dr. Craig presented a paper in which it was stated that one-third of the sixty-three natural orders officinal in the Br. Phar. were represented in Scotland. Twenty or twenty-five of the 365 officinal plants are indigenous to Scotland.

Mr. Fliebert has been appointed professor of practical pharmacy in the Medical School at Dijon.

Mineral Waters.—A special exhibition of French mineral waters will be held during the Universal Exposition in Paris, in 1878.

Printed Pills.—Frère, of Paris, manufactures pills with the name of the active principle and the dose legibly printed on each pill.

Homœopathy.—There are at present 300 homœopathic physicians practising in France, 70 of whom are in Paris, and 230 in the departments. There are 14 homœopathic pharmacies equally divided between Paris and the departments.

Cinchona in India.—In a recent article in the English public prints the following account was given of the yield of the cinchona plantations in India:

Some fourteen or fifteen years ago the Government of India planted on the Neilgherry Hills a number of trees which have flourished, and are now producing valuable bark used for making quinine. The yield has been steadily increasing year by year. Last year 60,000 lbs. weight was readily sold in the English market. This year 80,000 lbs. has been received. The Indian barks are of two kinds: the *officinalis* or Crown, and *succirubra*, or red. During recent years private individuals have undertaken the cultivation of these trees, but as yet have not been so successful as the Government in the gardens at Ootacomund.

Mummy-Asphalt.—It was scarcely to be expected that the concession to an English firm of exporting mummy bones from Egypt should have brought anything into the drug market; nevertheless, during March of this year, a quantity of *mummy-asphalt* has been offered for sale and purchased by private contract in London, for use, it is believed, as a brown pigment. "*To what base uses may we come at last!*"—*Pharm. J. & T.*

American Dermatological Association.—The first annual meeting of this Association will be held at Niagara Falls on the fourth day of September next. "The titles of all papers to be read at any annual session shall be forwarded to the secretary, not later than one month before the first day of the session."

Asbestos Paper, entirely incombustible, firm and especially valuable for the recording of important documents, is at present manufactured in the city of Tivoli, Italy. It only cost four francs per kilo (2 lbs.)

A Chinese "Materia Medica" affords some information regarding the flowers used for perfuming tea. The principal ones appear to be those of *Gardenia radicans*, *Jasminum sambac*, *Aglaia odorata*, *Ternstrœnia Japonica*, *Camelia Sassanqua*, and *Olea fragrans*; those of the last-named shrub being especially esteemed for the purpose. The leaves of *Salix alba*, and many other species of willow, are employed in making a kind of Tien-cha, and are said to be openly mixed with the tea intended for exportation at the Chinese ports.

To Estimate Chicory in Coffee.—Mr. Albert Smith, of 198 Essex Road, London, sends to the *Chemical News* the following process for the estimation of chicory in coffee: Take 5 grms. of the coffee, pour upon it about 25 c.c. of boiling water, and filter; then pour it into a test-tube, and add acetate of lead, which will throw down the coloring matter of the coffee, but leave that of the chicory, which can then be estimated by comparing it with a standard of a known quantity of chicory.

Poisonous Fireworks.—A lady is said to have died recently in Bristol, N. H., from the effects of the fumes from "red fire." Properly made red fire should contain no sulphur or antimony.

Iridescent Mother-of-Pearl is prepared as follows: A sufficient quantity of water of ammonia to cover the object is introduced into a glass-stoppered vial, and silver chloride is added until no more is dissolved and an excess of it is present. The mother-of pearl object is now placed in the liquid, the vessel closed and set aside in a dark place. After a few days it is taken out and exposed to direct sunlight, whereby the play of colors is developed in a couple of days. The intensity of the iridescence may be regulated by a longer or shorter maceration in the silver solution. The quality of the mother-of-pearl is likewise of great influence upon the result. The object should, if possible, be pure mother-of-pearl; if it contain gold the deposit of silver may be removed by careful treatment with nitric acid; silver-mounting will tarnish, but may be reburnished by rubbing; iron remains unaltered, but brass and bronze are rapidly destroyed in the liquid. According to some authorities, a solution of bismuth sulphide in sodium hyposulphite is also used for coloring mother-of-pearl.

To Cut Sheet-Brass Chemically.—Draw a line across the brass-plate with a solution of a mercury salt, moisten the line with nitric acid, and it may easily be broken like glass. The salt is decomposed, the mercury forming an amalgam with the zinc and the nitric acid attacking and dissolving the copper.

The Production of Wax in the United States is estimated at 20,000,000 pounds per year, value $600,000. The total value of honey and wax produced here annually amounts to about $15,000,000.

Carbolin is the name of a new indelible stamping ink prepared by Dr. Jacobsen, of Berlin, which is a permanent oily liquid, giving clear impressions, does not corrode metal, and the base of which is aniline black.

Statistics of Cinchona Production upon Java.—The total quantity of bark harvested during 1876, upon the government plantations of Java, was 46,443 kilos of whole, and 831 kilos of powdered bark. To obtain these quantities, 56,000 trees were stripped. Towards the end of the year the total supply, with the exception of a few bales, had been sent abroad, although it was extremely difficult, during the past year, to obtain the necessary means of transport to the coast, on account of the unexpectedly large coffee crop, which had to be delivered at Tjikao and other sea ports. Besides, the value of oxen has of late risen considerably, and the natives insist upon higher remuneration for the transport of freight. The following quantities were exported to the Netherlands:

	Chests.	Bales.	Pounds.
C. succirubra	..	290	33,769
C. Calisaya Javanica	97	105	26,991
C. " Schuhkraft	42	22	8,663
C. " Ledgeriana	24	5	3,925
C. officinalis	2	30	3,751
C. Haskarliana	15	21	4,740
C. caloptera	..	8	960
C. Pahudiana	..	4	482
Mixed whole bark	..	14	1,697
Powdered bark	7	..	1,585
Total	188	499	91,563

The official report contains an extremely interesting table of the percentages of alkaloids found in the different varieties of bark, of which we give a condensed abstract:

	Quinia.	Cinchonidia.	Quinidia.	Cinchonia.	Equal to Quinia Sulphate.
C. succirubra	0.43—1.03	2.17—4.78	....	1.38—3.07	0 58—1.38
C. Cal. Javanica	0.58—1.27	0.18—0.89	0.11—0.41	0.73—1.76	0.75—1.71
C. Cal. Schuhkraft	0.23—0.52	0.00—0.13	0.11—0.77	0.62—1.07	0.30—0 70
C. Cal. Ledgeriana	3.38—7.22	....	....	0.08—0.48	4.54—9.72
C. officinalis	3.84—4.02	0.61—0.69	....	0.17—0.18	5.16—5.41
C. Haskarliana	0.94—2.01	0.37—0 42	0.11—0.18	0.66—0.81	1.27—2.70
C. Pahudiana	....	0.52	....	....	....
C. caloptera	0.38	0.21	....	2.03	0.51

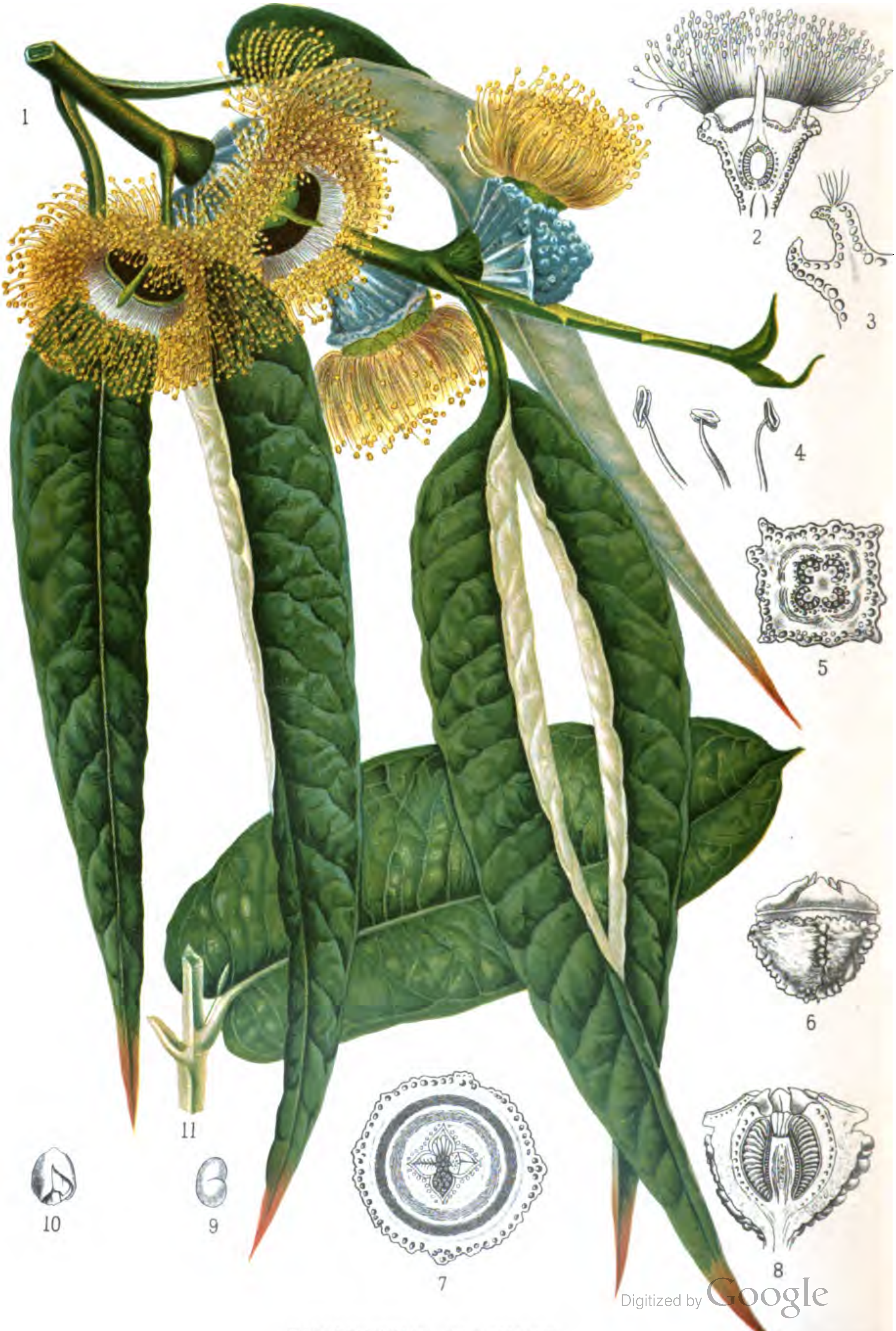
Wood-Vinegar.—The manufacture of wood-vinegar has of late been enormously extended, chiefly on account of the simultaneous formation of wood-spirit, or methylic alcohol, which is consumed in the manufacture of aniline colors. In spite of the most careful purification, however, it was impossible, up to the present time, to induce the consumption of wood-vinegar for table use, owing to the pyroligneous flavor which persistently adhered to it. This flavor, however, is said to be entirely destroyed by Mollerat's process, according to which a concentrated solution of sodium acetate, previously several times recrystallized, is decomposed with an exactly equivalent quantity of sulphuric acid, carefully avoiding an excess. Acetic acid, free from foreign odor, is liberated and sodium sulphate is formed, which is but little soluble in cold acetic acid. The last remaining portions of this may be removed from the solution by the careful addition of a little calcium acetate, whereby an equivalent quantity of sodium acetate is formed, which remains in solution, but, owing to its small quantity and innocuousness, is unobjectionable.

To Remove Foreign Bodies from the Nose.—Dr. John Winslow, of Ithaca, N. Y., sends us the following directions to be pursued in this emergency: "Close the empty nostril by pressure with your finger, and blow suddenly and forcibly into the child's mouth. The bean or button commonly flies out at the first effort; if not, a repetition is pretty sure to expel it."

Food for Infants.—An analysis of a food for infants, prepared by Faust and Schustro, in Göttingen, and which resembles that of Nestle, is said to give 11.51 parts of proteids, 76.51 parts of carbo-hydrates, and 1.80 of inorganic salts.

Blue Glass Mania.—The *Boston Medical and Surgical Journal* quotes a passage from Addison's *Spectator* of May 24, 1712, which attributes to the color green an influence upon the animal economy which, it remarks, "now that the public mind is occupied with the silly blue glass mania . . . . may be interesting. The physiology is, to say the least, as good as General Pleasanton's." 'All colors that are more luminous overpower and dissipate the animal spirits which are employed in sight; on the contrary, those that are more obscure do not give the animal spirits a sufficient exercise, whereas the rays that produce in us an idea of green, fall upon the eye in such a due proportion that they give the animal spirits their proper play, and by keeping up the struggle in a great balance excite a very pleasing and agreeable sensation. Let the cause be what it will, the effect is certain, for which reason the poets ascribe to this particular color the epithet of cheerful.' "We are not aware what the origin of 'the blues' and 'blue devils' may be, but they certainly are not suggestive of cheerful associations. We occasionally have to inform correspondents that in our editorial capacity we never prescribe, but we are tempted for once so far to depart from our rule as to suggest to hypochondriacs who are always on the alert for a new remedy, to try the effects of blue pill before investing in blue glass."

NEW REMEDIES, an Illustrated Monthly Trade Journal.
New York, July 16, 1877.



EUCALYPTUS GLOBULUS.

NEW REMEDIES.

AN ILLUSTRATED MONTHLY TRADE JOURNAL OF
MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

VOL. VI., NO. 7, WHOLE NO. 37.

FRED'K A. CASTLE, M.D., - - EDITOR.
CHARLES RICE, - - ASSOCIATE EDITOR.

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PUBLISHERS' NOTICES.

THE edition of NEW REMEDIES this month is 8,000 copies.

IT is hardly necessary to direct special attention to the colored plate which accompanies this number. We consider it one of the finest chromo-lithographs ever issued as part of any journal.

SUBSCRIBERS who are in arrears will find their bills in this number. A prompt remittance is requested, and *will be necessary* to a regular continuance of the journal to any address.

NEW REMEDIES is the only ILLUSTRATED journal published for the drug trade.

SUBSCRIBERS who wish duplicates of this number of NEW REMEDIES will be supplied, to a limited extent, at 10 cents a copy.

ADVERTISERS are informed that copies of the August number of this journal will be sent to the drug trade in Canada, the British West Indies, India, Australia, and Japan, in addition to our regular subscribers.

☞ To those who desire to bring their business or manufactures before the drug trade of the country this journal offers superior advantages, no other of its class, with one exception, approaching its circulation. No expense will be spared to make and keep it the leading drug journal of the country. Advertisements displayed, and engravings, if furnished, inserted without extra charge.

EDITORIAL.

A SHORT time since, in a paper read before the New York Academy of Sciences, it was proposed that the Eucalyptus globulus should be planted in the public parks of this city as a means of increasing the healthfulness of their neighborhood. It was acknowledged that this variety of Eucalyptus is not capable of withstanding frost, to say nothing of the extremely low temperature which prevails here for so many weeks of the year; but the proposer of the scheme hoped that by a process of acclimatization the tree might, in time, undergo such changes as would permit it to be reared successfully.

There is little doubt that varieties of the Eucalyptus, like many other plants and trees, may, by judicious culture, be made to adapt themselves in a degree to different climates; but they cannot be expected to remain, in all characteristics, the same as when found in their natural home; and to presume that the Eucalyptus globulus would, under the circumstances, retain its anti-malarial qualities, is very problematical as yet.

Indeed, it is quite as likely that the changes wrought in the face of the country by the progress of civilization (drainage, cultivation, etc.) will have eradicated the conditions which favor the development of malaria long before the "fever tree" shall have become habituated to its surroundings.

In a recent letter written by Prof. Flückiger from the northern shore of the Mediterranean to the *Neues Repertorium für Pharmacie*, the author gives a description of the Eucalyptus globulus with especial reference to its appearance on the Riviera. It would seem that almost everything that can be said about this interesting tree has already been made public; but the letter of Professor Flückiger contains so much regarding its possible utility in its new home, that we give a portion of it as an accompaniment to the plate which is added to this number of NEW REMEDIES.

It must be remembered, however, that the localities where he found it are rarely or never visited by frost. We have yet to learn of an instance where it has been reared extensively in open air outside the limit of growth of the orange, palm, and olive, and we shall as much expect to see the Eucalyptus flourish in our climate as either of the latter.

It is already well known that flowering plants which have an odor develop ozone in growing, in proportion to the strength of their perfume: and that during their flowering season, in malarial regions, the effects of malarial poisons are not observed. When the centre of New York State was first settled by white people, it was customary to plant sunflowers in the banks of earth that were piled against the foundations of their log cabins, and it was a matter of observation that malarial fevers became less troublesome.

An officer of the Engineer Corps of the U. S. Army recently informed us that, being stationed during the war on the Potomac River in one of its most malarious portions, he surrounded his quarters with a thick *cordon* of sunflowers, and escaped any trouble from ague.

Dr. Salvatore Caro, of this city, says that in the Italian province of Romagna, where there is much malarial fever, and where the chamomile is largely grown as an article of produce, no cases of malarial fever occur so long as the plants are in flower.

How much of the anti-malarial property of the Eucalyptus is due to the aroma of its leaves, and how much, if any, to its rapid growth and its power of absorbing moisture from the soil, is not determined, but unless some special virtue can be found to exist in the odor it gives off we can see no advantage which it possesses, for our climate, over numbers of our flowering plants except the mass of leaves which it exposes to the surrounding air. It is very questionable, however, if it would attain in this climate to any such size as it does in the Riviera or in Tasmania, since the magnolia, although one of the largest and most imposing trees of our Southern States, and withal a tree of rapid growth, attains to no greater height in this latitude than a score of feet. So, too, the caoutchouc tree, large and thrifty specimens of which may be found in the Bahamas, is, with us, little better than a flower-pot specimen and a conservatory product.

Some of the leading British medical journals, whose editors used to be unsparing in their denunciations of "Homœopathy," and of other journals for their publication of the advertisements of homœopathic schools, have quite modified their views, if we may judge by the appearance of their own advertising pages, *vide Lancet* and *Med. Times and Gas.* Perhaps the action of the Vice-President of the British Homœopathic Medical Society may have had something to do with the change in their views of the question (see item on page 223).

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

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Historical Notes on Opium.

(Continued from page 145.)

The most thorough and important study of opium, so far as the progress of science permitted at that time, was made by Wedel or Wedelius,[13] the author of the celebrated "Opiologia," or treatise on Opium, from which the following abstract is taken. By heating opium in a retort, Wedel obtained: 1. a residue; 2. a volatile spirit; 3. a blackish oil, to which opium owes its narcotic power. According to the mode of expression then in use among chemists, opium contained therefore a good deal of "sulphur" (the oily substance), "mercurius" (the volatile matter), and besides, "aqueous, earthy, and salty ingredients." Wedel employed opium with preference in the form of tincture, in doses of 10 to 20 drops. In cases of poisoning by opium he administered first an emetic, then essentia castorei, elixir cephalicum, and principally spiritus formicarum[14] internally and externally, afterwards aloe-pills. He also mentions that others had recommended camphor and luke-warm baths. He recounts many instances of accidental poisoning, and unmercifully rebukes the authors of these accidents, "the medicaster parochus" (parish quack) and the "tonsor" (barber). Occasional accidents are also attributed to the physician's writing ***opium*** instead of ***apium***. He also quotes remarkable instances of opium-eaters; among others, that of a French ambassador who took opium by the ounce. The maximum dose he puts at 5 grains, and gives general directions as to its administration. "Above all, the condition of the patient must be taken into consideration; if this is low and the vital powers feeble, all other indications are placed into the background. Opium is a life-anchor for him who uses it properly and with circumspection, but in the hands of the unskilled it is a semblance of Charon's boat, and pernicious as a sword in the hands of a madman. Great care is therefore to be exercised, that the *narcotic* may not be converted into a *necrotic*."[15] After a general introduction, the author discusses the diseases of all parts of the human body in which opium may be used. His principal indications are about the same as those which obtain in our days. The work is accompanied by an appendix treating of the *Maslach*[16] of the Turks; by its use before a battle, the Turkish soldiers were said to have been excited to such a reckless and fanatic courage as to make them a terror to their foes. This was said to have contained opium. The great traveller, Thurnhäuser, one of the most adventuresome followers of Paracelsus, pretended to know its mode of preparation.

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[13] Georg Wolfgang Wedel, born 1645, at Golzen, died 1721, at Jena. Celebrated physician and professor at the university. Wrote many medical, pharmaceutical, and chemical works; his *Opiologia* appeared first in 1674.

[14] *Essentia Castorei*:—1 lb. of castoreum is cut up fine, 6 lbs. of alcohol are added, and after allowing to macerate for 8 days the alcohol is distilled off and reserved. The residue is treated with strong wine-vinegar, the mixture filtered, and the vinegar distilled off. The residue left from this distillation is then dissolved in the reserved alcohol.

Elixir cephalicum:—Rad. Pæoniæ, ℥ i.; Galangæ, Valerianæ, Doronici, Fol. Rosmarini, Mari veri, Salviæ, āā ℥ ss.; Flor. Anthos, Lavandulæ, Liliorum convall., Pæoniæ, Stœchados, Betonicæ, Cubebarum, Succini, āā ʒ vi.; Visci corylini, Ligni Aloes, Ladani, āā ʒ iij.; Costi veri, Anacardiorum, āā ʒ i. Comminute the whole and extract them with alcohol.

Spiritus Formicarum (Cnœphelii):—Urticæ Rom. recent, *man.* i.; Betonicæ c. flor., Chamædryos, Salviæ, Rosmarini, Majorani, āā *man.* ss.; Flor. Lavandulæ, Sambuci, Primulæ veris, āā *man.* i.; Flor. Basilici, Stœchados Arab., āā *pug* ij.; Rad. Rhœados, Confect. Anacardiorum, āā ℥ ß.; Tartaris crudi, ℥ iss. Comminute the whole, add 10 lbs. of alcohol, and after macerating, distil. Then add to the distillate 3 manipuli (handfuls) of living ants and ℥ i. of crude alum, and after 24 hours distil again.

In opposition to Wedel, his celebrated pupil, Stahl,[17] the founder of the phlogiston theory, discouraged the use of opium, as well as that of cinchona and of alteratives.

But the teachings of the celebrated English physicians Sydenham,[18] Cullen,[19] and Brown,[20] raised opium to the highest importance. The first one of these termed opium and blood-letting the "crura medicinæ" (the legs on which medicine stands), and preferred opium to all other narcotics. According to him the three principal indications for its use are: 1. sharp pain; 2. persistent vomiting or purging; 3. considerable disturbance of vital powers. But he rejects it in cases of "inflammation of the blood, upon which many acute diseases depend." Cullen declared fever to be a weak condition of the nervous system, accompanied by an increased heart's action, and he recommends in such cases opium, wine, cinchona, and tonics. But the chief votary of opium was John Brown, who used to say that Sydenham would certainly be a follower of his theory, if he were still alive. His ardent and fanatic worship of opium originated from the soothing effect which he found it to have upon his gout, and he was frequently in the habit, during his lectures, of taking brandy and opium. His system, usually termed Brownianism, may briefly be explained as follows: Life is a series of actions, which the body is compelled to perform in consequence of its irritability, by external or internal irritations. The disturbances of vital action—that is, diseases, may be consequently divided into sthenic or asthenic conditions, caused by excessive or deficient irritation. The latter condition may have two causes. either the irritability is normal, but irritation is absent, in which case an irritant remedy will furnish relief; or, in consequence of previous over-irritation, the irritability has become diminished; in this case a series of gradually decreasing irritants must be employed until the normal condition is restored. Among the sthenic remedies opium occupies the front rank, besides musk, volatile alkali, camphor, and ether.

Brownianism soon gained a host of adherents; it even was made the official basis of treatment in the Austrian army. A military surgeon praised the cheapness of this method of treatment, as the cure of intermittent fever required only 8 kreuzers' worth of opium and 32 kreuzers' worth of brandy.[21] As a counterpart of this may serve the report of another, who states that of 600 patients treated by this method, 200 died in the course of 21 days, chiefly from alcoholism.

The excitant powers of opium had been observed and pointed out, before Brown, by a German physician, Balth. Ludwig Tralles of Breslau. The Italian physician, Carminati,[22] although differing from Brown in the mode of accounting for the operations of opium, nevertheless also acknowledges its excitant properties.

A new epoch in the history of opium begins with the time when chemistry was endowed with better methods of investigation, the immediate consequence of which was the discovery of the alkaloids. The most important of these is morphia, which was discovered by Sertürner[23] in 1804. From this time to the present the repeated examinations of opium have proved it to be an exceedingly complex substance, and it is likely to prove a fruitful source of research for a long time to come.

Salicylate of Soda in Diabetes Mellitus.

DR. MÜLLER-WARNICK (*Berliner klin. Woch.*) has tried salicylate of soda in two cases of diabetes mellitus, in which different methods of treatment had previously failed. As a result of his experience he says: (1.) Salicylate of soda can completely remove the symptoms of diabetes mellitus, yet its action does not appear to be lasting in many cases. (2.) The symptoms of diabetes are made to disappear the quicker by salicylate of soda, the greater the dose in which it is used, and the longer it is borne by the patient. (3.) The first action of medium daily doses, nine to ten grammes, on diabetics, appears gradually to abate, while large doses, fourteen to sixteen grammes in a day, act on patients progressively. (4.) Salicylate of soda can be borne in chronic diabetes in large daily doses for a long time without special disturbance of the general condition. If symptoms of poisoning occur, they rapidly and completely disappear after a short omission of the drug. (5.) Salicylate of soda in chronic diabetes, even on long-continued exhibition, appears to possess only a slight irritating action on the kidney.—*Boston Med. and Surg. Jour.*

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[15] Lest the *ναρκωτικόν* (narcotic) become a *νεκρωτικόν* (death-producing).

[16] Maslach, or Malach, is a vulgar name for *hemp*, used by the Egyptians and Turks. The intoxicating properties of *Cannabis* seem to have been but little known in Europe at Wedel's time.

[17] Georg Ernst Stahl, born 1659, at Anspach, died 1734, at Berlin. His phlogiston theory, which attempted to explain the various phenomena attending light and combustion, maintained its authority for seventy years, when it was exploded by Lavoisier.

[18] Thomas Sydenham, born 1624, at Winford Eagle, died 1689, at London. He is sometimes called the English Hippocrates.

[19] William Cullen, born 1712, in Lanarkshire, died 1790, at Edinburgh.

[20] John Brown, born 1735, at Bungle, died 1788, at London, a victim to his own teachings, in a state of chronic intoxication.

[21] 100 kreuzers (= 1 florin)=47 cents. It is hardly necessary to remark, that the system was, after a while, rejected, and that no obligatory "system" has been in use since.

[22] Bassian Carminati, born 1750, at Lodi, died 1830, at Milan.

[23] Friedrich Wilhelm Adam Sertürner, born 1783, at Neuhaus, died 1841. Apothecary at Eimbeck, afterwards at Hamlin. His researches on morphia and meconic acid, which he had discovered in 1804, were not made fully known until 1817.

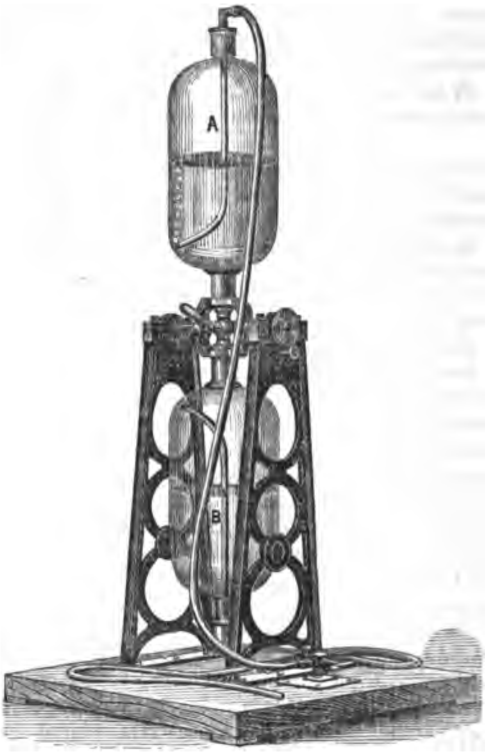
The Use of the Hypophosphites in Phthisis.

DR. BURNEY YEO, in a paper read before the British Medical Association at its last annual meeting, sums up the results of his experience with these remedies, having administered them to nearly a thousand consumptives during the last five years.

In advanced phthisis, with both lungs involved, as well as in less advanced cases which run a rapid course and are attended with high fever, they have proved of no service. Their use was attended with more success in young persons than in older ones, and in fair persons of sympathetic temperament than in dark persons of sanguine or bilious temperament. They seem to be of most service in children laboring under all forms of chronic lung disease, and in young adults who tolerate the disease pretty well, and in whom it is limited to the upper portion of one lung. If benefit result, it is almost immediate, as a rule, and is chiefly manifested by improvement in the general health and strength. The physical signs sometimes diminish, more often remain stationary, but may increase in extent simultaneously with marked improvement in the general condition. This improvement is often only temporary, and in consequence, it may be, of some imprudence on the part of the patient, the disease takes a fresh start, and further administration of the remedies is useless. Indeed these cases usually run a very rapidly fatal course, and it is therefore suggested "that patients who are mending under the administration of these remedies should be protected with more than usual care against all those conditions which may possibly lead to a relapse."—*Boston Med. and Surg. Jour.*

A Double Aspirator.

Two glass cylinders, of known and equal capacity, are connected together by brass fittings, in the manner shown in the cut, and the communication between them may be regulated by a stopcock. They are mounted upon a steel axle, supported by cast-iron frames, which are fastened to a solid support. At the upper part of one of the frames a spring catch insures and maintains the perpendicular position of the apparatus. The distant ends of the glass cylinder, which are likewise mounted with brass, carry each, two interior glass tubes reaching nearly to the bottom of each cylinder, and a bent outer tube, to which is attached a rubber tube, leading from each cylinder to the stopcock fastened to the base. This latter stopcock is tapped in such a manner, that, if turned in the position shown in the cut, it causes communication of the cylinder *A* with the vessel or apparatus, from which air is to be exhausted, while at the same time it gives escape to the air contained in *B*. As soon as the upper cylinder is empty, by pressure upon the spring catch the axle is rendered movable, the apparatus swung half round, and the stopcock at the base turned 180° (one-half round). In this position *B*, which is now above, becomes the aspirator, while *A*, which is below, discharges its air. The apparatus may therefore be used almost uninterruptedly, and is especially serviceable for physiological laboratories.—ROBERT MÜNCKE, in *Ber. d. Deutsch. Chem. Ges.*, 10, 540.



A Double Aspirator.

The Eucalyptus Globulus.

PROFESSOR FLÜCKIGER has recently visited the shores of France and Italy bordering the Mediterranean, known as the "Riviera," and in an exceedingly interesting letter printed in the *Neues Repor-*

torium für Pharmacie he writes thus, regarding the Eucalyptus globulus which is being introduced into that region:

One tree of the future, at least—one of hope for the poorly wooded districts of Italy—may to a certain extent be recognized in the *Eucalyptus globulus*, Labill. This tree is sufficiently heterogeneous to give, in the event of its extensive cultivation, an entirely altered appearance to the landscape. For this, however, the Riviera has yet a long time to wait; for of systematic forest-cultivation of the eucalyptus nothing is yet known, and scarcely anything of the cultivation of forestry itself. But there is sufficient opportunity of seeing fine specimens of this tree everywhere, from Genoa to Cannes. Many entire lengths of road are planted with it, and in very many gardens these Australian citizens already tower boldly above their surroundings, and warrant the expectation that in this country they will not remain far below the height of 100 metres that they attain in Tasmania. The tree was discovered in the south of that island on the 6th of May, 1792, in the neighborhood of the Entrecasteaux Channel, by Jacques Jules Labillardière, when botanist to an expedition, consisting of the "Recherche" and the "Espérance," fitted out by order of the French National Assembly to search for La Pérouse, who had disappeared since 1788. But a less learned collector might well have been attracted by this strikingly gigantic tree. In the first place, the entirely different appearance of the full-grown tree is remarkable. In the young tree the quadrangular branches are furnished with broad opposite amplexicaul leaves; but instead of these, while still quite in its early years, on the new shoots, and afterwards on all the subsequent ones, there are formed small, long-stalked, pointed leaves, which often take a sickle-like form. The latter form alone is shown by Labillardière in his great work, together with the fruit, which he compared to the fashionable button of the day, and on that account he named the new species *Eucalyptus globulus*. The broad ovate leaves and the young shoots are covered with wax, imparting to the quite young trees a dull gray green color, which is not so much the case with the small later leaves. These hang loosely downwards from the long rather horizontal branches, and are swayed by the wind like aspen leaves, notwithstanding their thick coriaceous texture. It is known that the chemical properties of a leaf hanging perpendicularly differ from those of a leaf occurring in the ordinary nearly horizontal direction. Robert Brown noticed, for instance, that in respect to the stomata in the eucalyptus leaves an important difference exists. The broad sessile leaves have stomata only on the under side; but the pendent stalked leaves are provided with them on both sides. The action of the sun's rays upon the two kinds of leaf must likewise be very different. Most probably even the oils occurring in the two leaf-forms do not correspond.

The trunk of the *Eucalyptus globulus* (and other species) throws off very long strips of brown bark in a similar manner as the plane scales off its shorter but much wider pieces of bark. The entire family of *Myrtaceæ* is distinguished by its richness in essential oils, and the genus *Eucalyptus*, which belongs to it, is not an exception. When a leaf is held against the light numberless oil glands can be seen; even the bark torn off by the wind is still aromatic; that collected in Australia far more so than that of this country. This essential oil has procured for the tree a considerable reputation during the short period of its naturalization in Italy, South France, Algeria, Spain, and Portugal. In pharmaceutical literature it has been a standing subject since about 1866, and it has become not less important in the horticulture of the South.

With respect to the essential oil no definite conclusion has yet been arrived at. It appears probable that it is essentially a mixture of cymol, $C_{10}H_{14}$, and terebene, $C_{10}H_{16}$, with an oxygenated oil, $C_{10}H_{14}O$; that is to say, these constituents were recognized in commercial eucalyptus oil, which was probably distilled from *E. amygdalina*, Labill., in Australia; but without further investigation this could be scarcely identified. Ferdinand Müller, the honored botanist of the colony of Victoria, enumerates about sixty species of *Eucalyptus* in his "Fragmenta Phytographiæ Australiæ," and a glance at the names alone would awaken the expectation of considerable chemical variations. Amongst them are found such designations as *citriodora*, *elæphora*, *eudesmoides*, *odorata*, *oleosa*, *piperita*. This fact allows the conclusion that there are important differences in the smell of the aromatic leaves, and that nearly as the species may stand in botanical relation to each other, they still produce chemically different oils. Moreover, judging by the odor, the *E. globulus* contains in the large and numerous oil cells of its fruit a different oil from that in its leaves and bark. In the gardens of the Palazzo Orengo, besides some fine specimens of *E. globulus*, there are some very young trees of *E. eugenioides*, Sieb. (referred by Müller to *E. hæmostoma*, Smith), the leaves of which upon being rubbed give off a very remarkable smell of butyric acid, exactly resembling St. John's bread. The work upon the only eucalyptus oil at present examined is not yet finished, and of the oils of the other species we have no knowledge, so that these trees still present an immense field for chemical research.

Whether the final judgment of medicine upon the eucalyptus leaf be favorable or unfavorable, gardeners and foresters are probably perfectly right in advocating the propagation of this tree in the South. Febrifuge or not, its greater diffusion will naturally make the district healthier by intercepting the scorching rays and contributing to the more active distribution of atmospheric moisture. Such expectations will be doubtless quickly fulfilled where regular woods of eucalyptus are planted, as in Algeria, the Campagna di Roma, and the Delta of the Var, near Nice. For these inestimable services eucalyptus trees are pre-eminently suited by their remarkably rapid growth. Throughout this district the *E. globulus* alone has been planted. Next to *E. amygdalina* this species attains the greatest height, and it probably owes its more frequent cultivation in Europe to its having been the first introduced. But it is a question whether other species also, both the shrubby and tree forms, would not be equally well adapted to the South European climate. In the gardens of South France, the *E. globulus* occurred as a curiosity as early as 1822, and in Algeria in 1854; but real cultural experiments were not undertaken till 1863. At present, a tree fifteen years old, about 28 metres high, with numerous enormous branches, stands in the public gardens at Antibes, and at a man's height is 2.25 metres in circumference. Another in the garden of the Palazzo di Orengo, near Mentone, only seven years old, has a circumference of 1.30 metre, and is 19 metres high. This is a development which is not attained by any other indigenous or introduced tree in Southern Europe. The olive, chestnut, walnut, and ceratonia grow much more slowly, and do not present so tall, straight, and columnar a trunk. Labillardière called attention to the extraordinary hardness of the wood. It is evident how valuable such a tree would be in this woodless land; but in the Riviera the reign of indolence is not yet broken by the eucalyptus. In Algeria and the Roman Campagna, on the other hand, very promising and extensive plantations appear to be in full development. Separately and in small groups the *E. globulus* is sufficiently frequent in the Riviera de Ponente to compel closer consideration. As to whether it is to be described as a beautiful tree opinions are much divided, and on account of its peculiarity it is difficult to form a definite judgment in the matter, because at different stages of its growth it changes far more in respect to its branching and foliage than any European tree. When it bears the small sickle-formed leaves, their great mobility introduces a very pleasant liveliness among the surrounding stiff-leaved olive, ceratonia, and lemon trees. However, the foliage of the eucalyptus cannot on the whole be called particularly rich; in this respect, and also as to the pendent leaves, it might be compared to the birch. But this tree is much more branched, and fine specimens therefore make a far more striking impression.

What the effect as to appearance in the Riviera will be at some future time of a tall straight-stemmed wood of *E. globulus*, the foliage of which would probably not amount to much before the trees attained a height of 30 metres, must remain undecided. However, it can scarcely be expected that trees 100 metres high, a height to which this species attains in Tasmania, will afford a really beautiful prospect. The species which grows to the greatest height, *E. amygdalina*, the stems of which, 145 metres high, exceed that of the tower of Strasbourg Cathedral (142 metres), or the present height of the Cheops Pyramid (137 metres), appears not to be yet cultivated in Europe; but probably some of the smaller, partially bushy species might become rivals to *E. globulus* as to appearance. Obviously, the climate of the Riviera, and the still more favorably situated districts of central and southern Italy, not too far removed from the coast, suits the *E. globulus* as well as that of Algeria, Andalusia or Portugal. It prospers also near the north Italian lakes; on the other hand, its success in Lombardy, Istria, and in South France westward of Cannes is as yet doubtful; neither has Pisa proved favorable. It sounds therefore surprising that a specimen should have survived the winters of 1873 and 1874, in the Marly Garden, near Sans Souci. Possibly species might be found that would not suffer from the mild winter of southern England.

The juices of several eucalyptus trees correspond with the kino from *Pterocarpus Marsupium*, Roxb., especially those of *E. citriodora*, Hook., *E. corymbosa*, Sm., *E. rostrata*, Schlecht., and *E. resinifera*, Sm. The last named is represented by some young trees in the grounds of the Palazzo Orengo. It can only be hoped, therefore, that in the near future the vigorous group of the eucalypti may produce a picturesque alteration in the olive groves of the Riviera.—From the *Pharm. Journ.*

THE colored plate prefacing this number of NEW REMEDIES is copied after an illustration in Bentley and Trimen's "Medicinal Plants." Neither this nor the original, however, are in all respects exact. The color of the leaf of the young plant is by no means so dark, and the leaves peculiar to the early growth of the tree have little or no petiole in the specimens we have seen, but appear to arise directly from the stem in such a manner that their bases overlap each other. Furthermore, they are placed on the same level on opposite sides of the square stem, and not on opposite angles at a different level, as shown in the cut. The numbers refer to the following parts of the plant: 1, end of a flowering branch; 2, vertical section of a flower; 3, section of the raised disc; 4, stamens; 5, transverse section of an ovary; 6, fruit; 7, transverse, and 8, vertical section of the same; 9, a fertile seed; 10, embryo; 11, leaf of a young tree. (3, 4, and 7 to 10 enlarged.)

Administration of Nitrous Oxide Gas.

IN a recent number of an English journal an account is given of the death of a Dr. Morley Harrison, while undergoing the administration of nitrous oxide gas, and in connection with the statement that he had a fatty heart, attention is directed to the remarks of Dr. Johnson in his Lumleian Lecture before the Royal College of Physicians. "Considering the great tension of the left cavities of the heart at the commencement, and the engorgement of the right side towards the end of the operation, Dr. Johnson thought the administration of nitrous oxide would be attended with some risk, in the event of the heart being diseased."

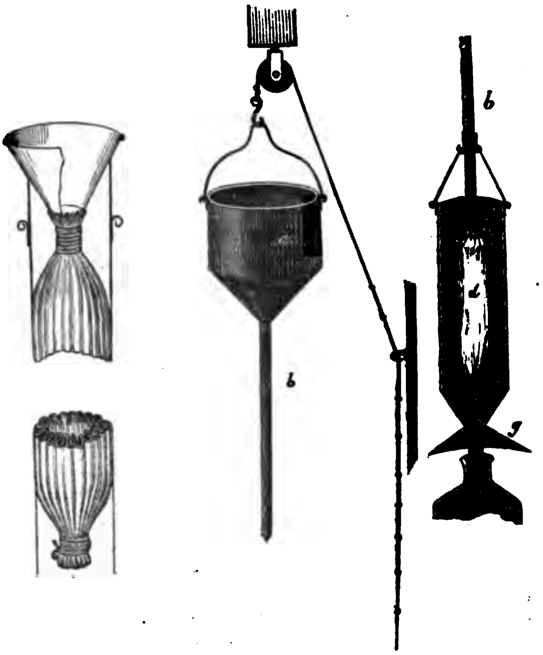
On the 13th of February last, a paper was read before the Pennsylvania Association of Dental Surgeons by Geo. T. Barker,* in which the author says that, notwithstanding nitrous oxide has proved to be in many respects efficient when judiciously administered, "at the same time it must be admitted by its most extravagant eulogists that it has been administered indiscriminately by those unfamiliar with its properties and appropriate uses; while the laudation which it has received by daily advertisements in the public press, which have been continued without contradiction, has led the general and even the professional public to regard it as entirely without danger, and incapable of producing harmful results." He claims that in almost all large cities in the United States the extraction of teeth has been taken out of the hands of the "regular" dentists, whose principal efforts are directed towards the preservation of natural organs, and is now monopolized by a class of practitioners, who, however well they may be instructed, cannot continue to destroy organs without attempt at restoration, and at the same time be competent to decide that they cannot be preserved by judicious treatment. In this view of the case, it is only a loss of an organ that is to be regretted, but the administration of the gas so promiscuously as it has become, has more serious features for consideration.

Dr. Barker quotes symptoms attending the administration of the gas, as described by Dr. F. R. Thomas in his treatise on nitrous oxide, which resemble strongly those accompanying an attack of congestive apoplexy. He says that it is quite common for patients who have taken nitrous oxide to say: "I have never felt the same since I took gas. I am much more nervous, and don't sleep as well; have more headache, and would not, under any circumstances, take it again."

Dr. Geo. J. Ziegler, on page 49 of his work on "Researches on Nitrous Oxide," says: "While, however, the physiological effects of protoxide of nitrogen are usually of a highly pleasurable and sanative character, it cannot, nevertheless, be indiscriminately employed with safety." "It may be asserted," Dr. Barker goes on to remark, "that if bad results follow the use of nitrous oxide, it ought to be easy to prove the same by undoubted testimony, but as a general thing patients actually feel better after its inhalation, and so express themselves by laudatory remarks opposite their names in the book in the operator's office." This, he thinks, indicates continued hyperæmia of nerve centres, which, with the pleasure experienced from the thought that a painless operation has been performed, induces these emotional expressions, and is evidence of an abnormal condition. Physicians have stated that they have had cases of permanent headache, vertigo, syncope, melancholia, insomnia, convulsions, hysteria, and irregular heart-action, which *patients* attribute to inhalation of nitrous oxide.

Filtering Apparatus.

The filtration of viscid, syrupy or muddy liquids is connected with many difficulties, the principal one being the deposition of the sediment upon the whole filtering surface, whereby the passage of the liquid is either retarded or entirely prevented. We sometimes overcome the difficulty by introducing our liquid into tall, narrow bottles, where we allow the sediment to deposit, draw off the supernatant almost clear liquid, and filter this by itself. Now had this bottle or jar consisted of linen or muslin, instead of glass, the liquid column, above the sediment, would have oozed through the fabric and we would have at once obtained a clear filtrate. This is precisely the principle of Taylor's or the so-called sugar-house filter, which consists of a narrow bag of muslin, open above and below, one end of which is gathered in regular plaits, and tied, while the other end is tied around the spout of a funnel, the lower orifice of which is somewhat trumpet-shaped, to prevent the filter-bag from slipping. The spout of the funnel may be 1½ inch wide, and 4 inches long; and the filter-bag may have a length of 1 to 3 feet. Another open bag of muslin, but much narrower than the first, is now slipped over the latter, for which purpose this must be pressed or folded together, and finally the two bags are entered into a cylindrical tube of tinned iron of at least their own length. The filtering apparatus having been suspended properly, it is filled with the liquid, which soon begins to run through with remarkable rapidity and brilliancy. This is owing to the fact that the outer sack or bag prevents the bulging of the inner, and therefore insures a greater height of the liquid, while the sediment



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* *Dental Cosmos* for May, p. 248.

sinks down into the lower end, and leaves the pores of the fabric unobstructed; the tin tube, moreover, prevents radiation and evaporation, especially in the case of warm liquids.

This apparatus may be combined with pressure by lengthening the funnel-spout, so as to considerably heighten the column of liquid to be filtered. The annexed illustration explains this. The funnel *a* is provided with a tube *b*, being about 3 or 4 feet long, the lower end of which carries a shoulder for securing the upper end of the bag, which may have a length of 1–2 feet. The latter is surrounded by a tin tube *f e*, to prevent radiation and loss by squirting, and is provided with a hood *g*, to prevent the entrance into the flask of any spilled or overrunning liquid.

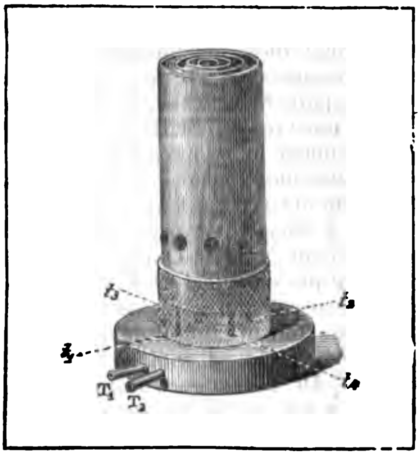
The first form of filter is an imitation of that employed in sugar-houses for filtering syrup through charcoal. In such establishments, however, a large number of filter-bags are fastened into one frame, and are filled together from one trough. This may be imitated without great trouble, when a large bulk of liquid is to be filtered.

Choleate of Soda as a Medicine.

Dr. W. C. Van Biber reports five cases (*Trans. of the Med. and Chir. Faculty of Md.*) to show that choleate of soda may act as a substitute for the bile when this secretion does not enter the duodenum. This he considers to be most desirable in cases of chronic jaundice. In these cases the use of the remedy improved the digestion, and the author's theory is that it acted as a substitute for the bile. In none of the cases did an attack of colic occur during its administration. He recommends choleate of soda in certain cases of dyspepsia, dependent on functional derangement of the liver; and in chronic jaundice, when it is evident that a sufficient amount of bile is not poured into the duodenum. In the former he considers that it will be quite as serviceable as pepsine is in other forms of indigestion, on the principle of supplying a substitute for a physiological secretion. He refers also to the use of the choleate, as proposed by Dr. Dabney, as a preventive of the formation of gall-stones.

On the Preparation and Estimation of Alkaloids and other Crystallizable Principles.

The apparatus designed by P. Cazeneuve and O. Caillol, and described and figured on page 108 of our April number, is proposed by the inventors for the exhaustion of substances, containing proximate principles, soluble in highly volatile liquids. The idea of the apparatus is not new, only the form and arrangement present a few novelties. But we can testify, from our own experience, that the results obtained with such an apparatus are much more satisfactory and economical than would otherwise be the case. The above-mentioned authors recommend their apparatus, among other uses, for the isolation or estimation of quinia in bark, either on the manufacturing scale or for purposes of assay. In the former case, of course, the operator will have to construct special large apparatus on the same or a similar plan; but in the latter case it may easily be put together from the usual laboratory utensils. Supposing a lot of cinchona bark is to be assayed: a number of pieces are selected from various portions of the bale, powdered, and 250 grammes of the powder are mixed with 250 gm. of recently slaked lime. The mixture is moistened with water until it forms a paste, which is dried upon plates of glass in an air-chamber at 100° C. It loses its water very rapidly. The powder is now transferred to the displacer (*B* in the cut on p. 108), and it is exhausted with ether of 0.735 spec. gr., taking care to avoid loss of ether. The residuary ethereal solution in the flask *A*, which is slightly yellow from dissolved resin, is shaken with very dilute sulphuric acid, the ether is distilled off, and ammonia is added to the warm solution, until the liquid has *nearly* reached the point of neutrality. It should still have a *slight* acid reaction, which must be ascertained by litmus. On cooling, the sulphate of quinia crystallizes out. This is collected upon a tared filter, washed, dried and weighed. The crystals thus obtained are very handsome, white, and salable without further purification.—*Répert. de Pharm.*, 1877, 225.



The New Godefroy Burner.

Mr. Godefroy's new burner, represented in the adjoining illustration, is composed of four concentric sheets of iron cylinders. The first and third are pierced with lateral holes at the base. The intervals between the cylinders communicate, some with the pipes t_1 and t_2 joining the exterior gas-tube, T_1, and others with the tubes t_3, t_4, which unite with the tube T_2. Wire gauze placed at the base of the apparatus prevents the flame from flickering, while it regulates the introduction of air. Only two internal cylinders may be used, if desired, in which case a high and regular white flame is produced.—*Scientific American.*

Sclerotic Acid, the Active Principle of Ergot.

THE pharmaceutical journals of last year[*] contained a condensed summary of the important investigations of Prof. Dragendorff, of Dorpat, and Mr. Podwissotzky, on the constituents of ergot, in which they announced the discovery of a proximate principle of an acid character and exerting in a high degree the specific effects of the drug. Since then the authors have published their results in detail,[†] and we believe to render a service to our readers by describing their method of preparing this principle, to which they gave the name "sclerotic acid," and which appears to have survived the period of doubt and novelty.

Referring to the accounts previously given, and leaving aside the recital of various abortive attempts, on the part of the authors, to obtain the substance in a perfectly pure state, we shall at once give the process finally adopted, which yields a nearly pure product.

Very finely powdered ergot is exhausted with distilled water, the solution concentrated in vacuo, and the residuary liquid mixed with an equal volume of 95% alcohol. This causes the precipitation of a peculiar slimy substance, scleromucin, together with a portion of the salts and the greater part of the suspended fatty matter. The mixture having been allowed to stand on ice for 24 or 48 hours, it is filtered and the filtrate mixed with a further quantity of 95% alcohol, sufficient to precipitate all the sclerotic acid in combination with the bases (chiefly as calcium sclerotate). The separation of the precipitate is promoted as before by placing the mixture on ice for some days. This causes the deposited mass, which has a brownish color, to adhere firmly to the walls of the vessel, so as to permit the supernatant liquid to be easily poured off. The precipitate is kneaded with alcohol of 80%, and immediately thereafter dissolved in a sufficient quantity of 40% alcohol, when the remainder of the scleromucin and another larger portion of the foreign salts are left behind. The filtered liquid is now mixed with absolute alcohol, whereby sclerotic acid is precipitated in conjunction with certain bases and other substances. This impure product, when carefully dried over sulphuric acid, was found on analysis to contain 8.5% of potassium, about 0.36% calcium, 4.3% sodium, 2.74% phosphoric and 3.4% silicic acid, or altogether, 19.3% of ash.

The greater part of these admixtures may be removed, and the sclerotic acid obtained free, by adding, before the final precipitation with absolute alcohol, a considerable quantity of hydrochloric acid (for every 100 c.c. of solution, 5–6 gm. of the acid, spec. gr. 1.100), allowing to stand at ordinary temperature for a few hours, and then proceeding to precipitate. In this manner the amount of ash may be brought down to 3%, and by repeated solution, addition of acid, and precipitation, it may further be reduced to less than 2% or 3%. A more complete purification is difficult and hazardous, because every addition of hydrochloric acid causes the decomposition of a small quantity of the sclerotic acid, while at the same time a portion of the latter is lost by remaining in solution.

The resulting product, although not chemically pure, is nevertheless, so to say, physiologically pure, as it always produces constant and identical results, no matter from what sample of (good) ergot it was obtained.

Sclerotic acid is entirely odorless and tasteless. In aqueous solution it has a faint acid reaction, and decomposes calcium carbonate only slowly, even on warming. Boiling nitric acid of 1.200 spec. gr. produces a little picric and oxalic acid, and a new substance, which assumes a bright yellow color on adding ammonia or other alkalies. More concentrated nitric acid converts it into picric, oxalic, mucic, tartaric, and aposorbic acids. It is not a glucoside; nor does it lose its effectiveness on the addition of dilute sulphuric or hydrochloric acids: on the contrary, the latter appears to intensify its effects. Boiling alcohol, in presence of sulphuric acid, extracts it from ergot in small quantities, cold alcohol not at all. It is therefore possible to abstract by means of cold alcohol and sulphuric acid a portion of the coloring matter from ergot, before extracting the sclerotic acid with water. But, unfortunately, the aqueous solutions (which carry with them a portion of the alcohol and sulphuric acid) spurt or bump so energetically during the distillation, that this modification of the process becomes unadvisable.

It might be supposed that sclerotic acid is not an acid, but an alkaloid, as it yields with phosphomolybdic acid a yellow, and with tannin an almost colorless precipitate. But other alkaloidal precipitants are without action upon it, and only lead acetate with ammonia produces a strong flocculent precipitate.

When properly purified, sclerotic acid is hygroscopic but not deliquescent, which circumstance distinguishes it advantageously from the commercial purified extracts of ergot. It is found in these in greater or lesser quantity, according as a weaker or a stronger alcohol was employed in exhausting the ergot. A few commercial extracts were found to be very deficient. In Bonjean's and Wernich's preparations and in Wiggers' Osmazom it exists in considerable quantity, while scleromucin is almost entirely absent, as is the case in all alcoholic extracts of ergot. In Zweiffel's preparation the acid occurs in a tolerably pure state, in a less pure condition in Buchheim's. In alcoholic tinctures of ergot, and in Wiggers' ergotin it is only present in traces or is entirely absent.

Good ergot contains about 4 to 4.5% of the acid, although samples are met with which contain scarcely 1.5 to 2 per cent.[*]

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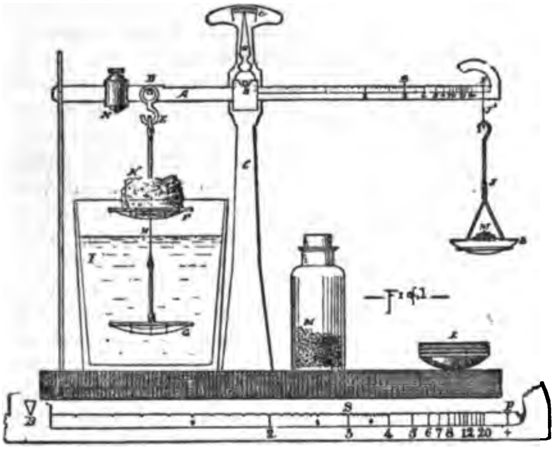
[*] *Pharm. J. and Trans.*, June 17, 1876. Reprinted in NEW REM., v. 208.

[†] *Arch. f. experim. Pathol. und Pharmacol.*, condensed in *Pharm. Zeit. f. Russl.*, 1877, No. 5, etc.

[*] Sclerotic acid (acidum scleroticum or sclerotinicum) is quoted in our Prices-Current at $20.00 per ounce. It is administered hypodermically in doses of 0.04–0.05 gm. ($\frac{1}{16}$ to $\frac{1}{12}$ grain).

Phosphorescence of Quinia-Salts.

On heating sulphate of quinia upon glazed paper, lying upon a silver plate, carefully to 50°–62° C. (122°–144° F.), and then stirring it in the dark with a glass rod, it emits a very handsome phosphorescence, which lasts for several minutes, until it becomes cold. Valerianate of quinia exhibits the same phenomenon even at ordinary temperatures. If the crystals of the latter salt be rubbed in a mortar, or be pounded with pressure, each blow causes a phosphorescent light, which seems, however, to be more characteristic of the salt prepared with the natural acid, obtained from valerian, than of the artificial prepared from fusel oil. Prof. X. Landerer, who makes the above communications, adds, that he has met with sophisticated valerianate of quinia in Greece, consisting of the hydrochlorate (muriate) impregnated with oil of valerian, or valerianic acid. The acetate, flavored in the same manner, has a great resemblance to the true valerianate.—*Arch. d. Pharm.*, April, 1877, 322.



New Specific Gravity Balance.

Mr. R. Parish, of Easthampton, Mass., is the inventor of an instrument which may be used in chemical laboratories or mineralogical field-work, and by the aid of which the specific gravities of common minerals and other solid substances heavier than water can be quickly and conveniently determined without resort to mathematical calculation, and without regard to exact weight. The instrument is adjusted to accurate balance with the counterpoise *J* and its loop *J*¹ removed from the beam *A*, but with the double-basket *F*, *G*, in position, and the vessel *I* supplied with water, as indicated. In determining the specific gravities the mineral *K*, or other solid to be tested, is placed in the basket *F*, and the pan-holder or counterpoise *J* is adjusted to the position *P*, established at a convenient distance from the fulcrum *B*, and marking the extreme working length of the lever-arm. One or more of the pans *L* are placed upon the receiver *J* to counterbalance the weight of the mineral, and a sufficient quantity of granulated copper or sand is placed in the pan to cause the beam *A* to stand in equilibrium. The mineral *K* is then removed from the upper (*F*) to the lower basket (*G*). The counterpoise and its load is then moved towards the fulcrum, to a position (*S*, for example) where it just counterbalances the submerged mineral. This position corresponds with the s. g. of the mineral, and the amount, being indicated on the graduated scale, can be read off directly.—*Scientific American.*

A New and Simple Method for the Quantitative Estimation of Urea.

George B. Fowler, M.D., of New York, proposes, in the *New York Medical Journal* of June, a new and simple method of estimating urea, which may be described, in brief, as follows: Remembering the success which has attended the use of Dr. Robert's method of determining the amount of sugar in solution by the difference in specific gravity, before and after fermentation, it occurred to Dr. Fowler that the difference in specific gravity, before and after decomposition by the hypochlorites or hypobromites, should bear a definite relation to the quantity of urea originally present in the solution.

"Now, between stable and fermenting saccharine solutions there is obviously a wide margin as regards specific gravity; for, by the action of yeast, not only is there a loss of matter (CO_2), but a generation of liquid lighter than water (alcohol). It was therefore a question at the outset whether we would have sufficient margin, with urine and the proposed reagents, upon which to base a calculation, and whether small differences in the amount of urea would be indicated with sufficient accuracy. Theoretically it seemed that there should be a loss in gravity, after the mutual decomposition between urea and a hypochlorite or a hypobromite, ... where, besides the loss of nitrogen, there is a production of water. According to Dr. Davy the carbonic acid does not escape from the solution, but is absorbed by the excess of caustic alkali of the reagent. My own observations support this statement, and therefore this product does not add to our margin.

"Again, urea consists of $\frac{7}{15}$ by weight of nitrogen, therefore almost one-half of the urea in the solution will disappear; and this loss, together with the water introduced, should cause a perceptible difference in gravity.

"The reagent I have found to be the most convenient for this analysis is sodium hypochlorite (the *liquor sodæ chlorinatæ* of the pharmacopœias), on account of its cleanliness, and because it is easily procured. But unfortunately the preparations of this article vary exceedingly as regards composition and specific gravity, some giving an insoluble precipitate of *calcium carbonate* with urine, and having a gravity of from 1.050 to 1.100. Of course we must not have a precipitate, and such a density would require a hydrometer of very long stem and large bulb, and would necessitate the use of a larger volume of fluid than would be desirable.

"In the standard solution prepared by Dr. E. R. Squibb, of Brooklyn, however, these objections are overcome, as there is not the slightest opacity following its addition to urine; and he informs me that the density, when it is bottled, is about 1.048. By exposure to air and light it is reduced.

"The most important step is to procure a hydrometer. The requirements are a stem which will indicate the gravity of the hypochlorite, and also that of the urine—that is, an index ranging from 1.000 to 1.050, and that each graduation should indicate *one degree* and be about two millimetres (one-twelfth of an inch) apart, in order to allow of accuracy in the reading. To be able to work with small quantities of fluids the instrument should be divided into two of equal size, one reading from 1.000 to 1.025, the other from 1.025 to 1.050."

The experiments of Dr. Fowler with solutions of urea of known strength showed that after decomposition every degree of density lost indicated 7.791 milligrammes of urea, per cubic centimetre of the solution (3.55 grains per ounce). Or every degree lost corresponds to 77 per cent.

The method is as follows: "Procure two glass cylinder jars, one about nine inches in height by one and a half in diameter, the other about seven inches by one inch. Into the smaller pour a quantity of urine and ascertain its *s. g.* Take about fifteen cubic centimetres (one half-ounce) of it and pour it into the large jar. Now wash out the smaller jar thoroughly and in it take the *s. g.* of the hypochlorite solution. Then add to the urine in the large cylinder, exactly seven times as much hypochlorite as there was urine taken.

"When the two fluids mingle there will be brisk effervescence, and care must be taken that none of the mixture be lost. After several minutes the disengagement of gas is less rapid; and now, by vigorously shaking the jar at short intervals, I have found the process to be hastened, so that at the expiration of an hour the decomposition is complete. It then only remains to take the gravity of the quiescent solution; deduct from what it was before decomposition, and estimate the amount of urea on the basis already given; after this manner:

"Suppose the *s. g.* of the urine to be 1.020, and that of the hypochlorite 1.045. But it is impracticable to take the *s. g.* of the mixture of these two on account of their immediate reaction; we therefore resort to the law of proportion, and estimate it as follows:

$$\begin{array}{lr} 1 \text{ part at } 1.020 = & 1.020 \\ 7 \text{ parts at } 1.045 = & 7.315 \\ \hline 8 &)8.335 \\ \hline & 1.041\tfrac{7}{8} \text{ s. g. of mixture.} \end{array}$$

"From the gravity of the eight parts we subtract that which is obtained after decomposition, which, we will say, is 1.038⅞. There is then a loss of 3°. Every degree of loss equals 7.791 milligrammes per cubic centimetre of urine used. Therefore the urine contained 23.373 milligrammes of urea per cubic centimetre, or 2.3 per cent." Care of course is necessary that the temperatures of the fluids agree. The presence of neither albumen nor sugar interferes with the accuracy of this method.

Phenomena Occurring during the Use of Goa Powder.

In the *British Med. Jour.* for April 28th, A. D. Keith, in describing the use of goa powder in a case of psoriasis, says: "During the course of the latter treatment several curious phenomena presented themselves. After he [the patient] had been rubbed for a week his face, and more especially his upper eye-lids, swelled very considerably, and the skin assumed the appearance of having been exposed to a tropical sun. His urine was the color of weak senna tea, and his finger and toe nails were dyed a deep purple. After the psoriasis had disappeared, a rash exactly resembling scarlatina appeared on the back of both arms and shoulders, as low as the angles of the scapulæ. The irritation from this eruption was so intense as to necessitate almost constant scratching; but a few applications of atropia ointment effectually removed this. To descend to a domestic matter, I wish to ask what will remove the stains of the goa powder from linen? The only objection to the goa powder ointment is its color and stain; and should chrysophanic acid ointment be equally efficacious, it will certainly be a great advantage."

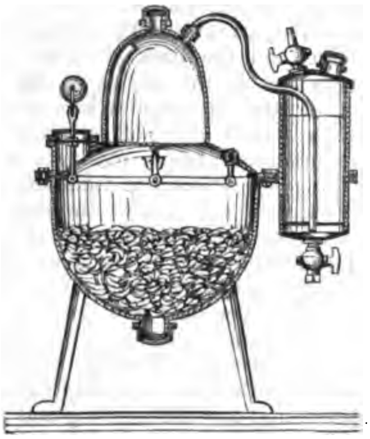
In the next number of the same journal Dr. Balmano Squire observes, in reply, that goa powder ointment is little else than dirty chrysophanic acid ointment, and that the swelling and dyeing of the face has already been described. He also adds that chrysophanic acid, in its pure state, has the same staining effect on the linen that it has in the impure condition, and he, moreover, declares his ignorance of a method for removing such stains. As the skin is the only garment which cannot be changed, the alternative of obtaining a sound skin at the expense of a spoiled shirt is not a bad bargain—so he thinks. Communications from other writers of experience follow, and confirm both the value of the remedy and the permanence of the stain caused by it.

Volumetric Estimation of Sulphuric Acid.

Mr. F. Jean proposes to estimate sulphuric acid in sulphates by adding to the solution, which must not be alkaline, baryta-water in slight excess, saturating with carbonic acid, boiling and filtering. The solution then contains in form of carbonate the whole of the previous sulphate-salt, and it is only necessary to titrate the solution with standard acid, in order to find the equivalent quantity of sulphuric acid.—*Comptes Rend.*

Protection of Iron against Rust.

PROF. BARFF has communicated to the Royal Society of London a method for effectually protecting iron against rust. This is accomplished by converting the external surface of the object into ferroso-ferric (or magnetic) oxide. The latter is much harder than iron, and adheres to it even better than the single molecules of iron among themselves, whereby not only the chemical but even the mechanical resistance of the iron is increased. For this purpose the objects are heated in suitable chambers during five hours at 260° C., which causes them to bear any change of temperature without rusting. If, however, the objects are heated for six or seven hours up to 650° C., the surface becomes so hard, that it cannot be scratched by a file. The original surface is thereby only changed in color; a smooth surface remains smooth, a rough surface rough. This discovery of Barff is expected to have a great future.—*Pharm. Zeit.*, No. 29.

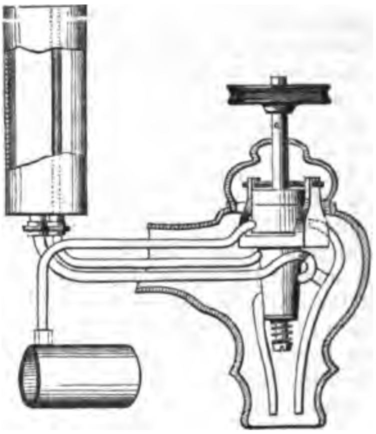


A New Carbonic Acid Generator.

MR. FREDERICK W. WIESEBROCK, of Brooklyn, has invented an improved automatic carbonic acid generator, of which the above illustration shows a transverse section. The nature of the invention consists in regulating the flow of acid, at will, into the generator by means of a valve which is opened or closed according to the pressure of gas. Acid is poured into the upper chamber through the bung in its top, care bring taken not to overflow the tube connecting this with the chamber below. The lower chamber is charged with marble chips and water through an opening not shown in the cut. The acid escapes from the upper into the lower chamber by means of an opening which may be closed by a conical plug, as shown in the illustration. This plug is supported by a lever, the movable end of which communicates by means of a vertical rod with a counterpoise outside of the apparatus. This vertical bar passes through an elastic diaphragm, which, when the pressure of gas inside the generator arrives at a certain point, rises, and, acting upon the lever, forces the plug into the opening from the acid chamber, and thus arrests the flow until the pressure falls. As the gas is generated it escapes through the tube above referred to into the upper part of the acid chamber, and then through the curved pipe into the washer, shown on the right side of the illustration. A stopcock at the top of the washer controls the escape of gas from the latter. The patent is numbered 190,396, and dated May 1, 1876.

Apparatus for the Artificial Production of Mineral Water.

MR. CHARLES BEYSCHLAG, of Indianapolis, Ind., is the inventor of an apparatus whereby mineral waters may be mixed with carbonic-acid water at the moment of draft. The upright tank shown on the left contains the mineral water and communicates with the faucets by means of two tubes; one to permit the escape of air from the faucet, as the latter is being filled through the other with fluid. Below the tank is the pipe coming from the carbonic-acid water fountain, and the small pipe communicating with this, together with the two pipes coming from the mineral-water tank, enter the ornamental shell covering the faucet, in the manner shown. The faucet is composed of two portions, or, rather, two faucets are placed one above the other in such manner that both are opened by the same movement. The carbonic-acid water tap is of a usual compression variety, regulated by a screw; a horizontal bar passing through the screw and moving the forked head of the lower faucet.



The mineral water faucet is constructed so that when closed, a cavity in its interior fills with fluid from the tank, and contains the amount required for one dose. As the two faucets are opened, the communication with the tank is cut off and the air passes into the chamber by the second pipe as the fluid escapes. Each faucet, it will be seen, has a separate discharge-pipe from which their contents are discharged simultaneously, and the mixing of the carbonated with the medicated fluids in the glass in this manner is intended to do away with a separate fountain and draft apparatus for the mineral water. [Patent No. 190,464, dated May 8, 1877.]

Cane and Beet Sugars.

In spite of the statement of chemists that there is any distinguishable difference between cane and beet sugars, it is said that sugar-refiners are able to tell them apart as a result of continued experience, which gives them a sort of intuitive power. Confectioners and preserve-makers are said to acquire the same ability to discriminate, and positively refuse to have beet-sugar at any price.

Beet-sugar, it is stated, is never sent into market in a pure state, being mixed, previous to recrystallization, with cane sugar, generally in the proportion of two parts of the former to one of the latter. One practical test is said to be the grayish black appearance imparted to whiskey-toddy by the beet-sugar.

Determination of Urea in the Blood.

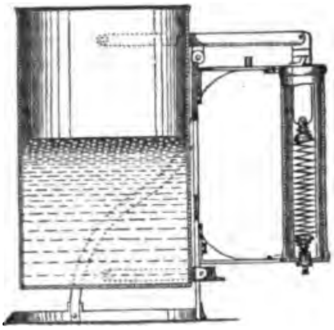
P. Picard has recommended a method for determining the quantity of urea in the blood, which offers two advantages: 1. It requires but a small quantity of blood, and therefore permits the repetition of the experiment upon different portions of the blood of the same animal; 2. The process is simple and sufficiently accurate. It is as follows: 50 gm. of blood are boiled, under constant stirring, with 50 gm. of crystallized uneffloresced sodium sulphate. The original weight is then restored by the addition of water. The whole is transferred to a filter, or it may previously be expressed and then filtered. Of the clear filtrate 50 gm. are weighed, introduced through a tubulated and fauceted funnel into a flask provided with an exit-tube. The funnel having been rinsed with water, which is likewise allowed to run into the flask, 20 cc. of pure hydrochloric acid are added, and heat is applied until the air has been expelled. At this moment the exit-tube is connected with a series of wash-bottles containing solution of baryta. The first part serves to retain the carbonic acid produced by the decomposition of urea, the last prevent the access of atmospheric carbonic acid. Everything being ready, about 20 cc. of commercial "nitrous acid" (nitric with nitrous acid) is allowed to flow, from the funnel into the flask, which is rapidly heated to 100° C., which temperature is kept up for 8–10 minutes. The urea is thereby completely destroyed, and the escaping carbonic acid is arrested by the baryta. Finally the resulting barium carbonate is decomposed by hydrochloric acid, and the carbonic acid is collected in a graduated tube. Each cubic centimetre of carbonic acid gas corresponds to 0.002683 gm. of urea. Now, as 50 gm. of liquid were employed, which contained the urea of 25 gm. of blood, it is only necessary to multiply the number of cubic centimetres with 0.002683 and with 40, in order to obtain the amount of urea contained in 1 kilogramme of blood.

In one experiment 14.5 cc. of carbonic acid were obtained, which corresponded after the necessary correction for temperature and pressure to 13.125 cc. This would be equivalent to 0.03515 gm. urea in 25 gm. of blood, or 1.405 gm. urea in 1 kilogramme.

Blood examined in this manner always shows the presence of urea. The author found in the arterial blood of dogs as a mean, 1.431 gm. of urea per kilo. Under normal conditions this quantity varies little. And between arterial and venous blood the author has observed a constant proportion of difference.—*Pharm. Centralh.*, 1877, No. 16.

New Method of Extracting Iodine from Kelp.

In a communication addressed to the French Academy of Sciences, M. Herland observes that the introduction of considerable quantities of Chilian nitrate of soda into the European market has seriously injured the coast industry of Finisterre, where soda and iodine are extracted from kelp by burning. It appears desirable that a more scientific method should find adoption, and the following is obviating existing defects. These defects are many. In gathering the sea-weed, no attempt is made to distinguish the species yielding most iodine; the drying of the kelp is effected in the open air, on the dunes, where it is exposed to the elements and the wash of the tide, and loses much of its saline principle; besides which, incineration is itself a wasteful process, as not only is iodine volatilized, but the sea sand intermixed with the weed combines with the iodides, forming earthy alkaline silicates, and thereby entailing further loss. The author's method is conducted as follows: The kelp is gathered in iron baskets or crates open at the sides and bottom, which are placed so as to be lifted by a revolving crane standing in the centre of a circle of vats filled with water mixed with good fresh quicklime, in the proportion of 50 kilogs. lime per cubic metre. The kelp is immersed in each vat in turn, and the process repeated with fresh kelp until the liquor in vat No. 1 indicates 4.3 to 4.5 degs. of the alkalimeter. During immersion an interchange of constituents takes place between the kelp and the lye, by exosmose and endosmose, the epidermis of the plants acting as a membranous diaphragm. The immersion in each vat lasts from 40 to 60 minutes. With a set of 10 vats, each containing 6 cubic metres, 50 kilogs. of fresh kelp may be lixiviated in 15 hours. The process concludes with the evaporation of the saturated lye to dryness, calcining the residue until fusion begins. The result is a soda extremely rich in soluble salts and iodine. The old method of burning gives, on an average, 15 per cent. of potash salts, and 1 per cent. iodine. The new method gives 45 to 50 per cent. of potash salts, and 2½ to 3½ per cent., or, where care is taken in the selection of the sea-weed, as much as 5 per cent. of iodine. The waste and the clouds of smoke (a serious impediment to coast navigation) incidental to the old method are avoided, and the sea-weed, retaining its nitrogenous principles and the lime taken up during immersion, becomes a valuable manure for sandy soils.—*Chemist and Druggist.*



Apparatus for Weighing Liquids.

An invention of J. G. Valentine, of Florence, Mass., consists of a frame having a tubular handle, inside of which is a spring. A lever is pivoted on the top of the frame, and by one end—which is forked—supports a vessel to contain fluid, while the other extremity is connected with the spring above referred to. Fluid poured into the can extends the spiral spring, and the weight is indicated on the link connecting the spring with the lever.

Gallo-Tannic Acid as a Reagent for Ammonia.

Tannic acid derived from galls is known as a general reagent for alkaloids. It is, however, important to know that under certain conditions this reagent may lead to fallacious conclusions. Tannic acid, namely, produces in solutions of *ammoniacal salts containing feeble acids* a white precipitate, as for instance in solutions of ammonium acetate. If the ammonia, however, is combined with stronger acids, as for instance in solution of chloride or sulphate of ammonium, tannic acid produces no precipitate; but, on adding a sufficient quantity of sodium acetate solution, the precipitate appears at once.—H. Hager, in *Pharm. Centralh.*, 1877, No. 17.

Wafer-Capsules as Vehicles for Administering Oils.

According to S. Limousin, castor oil, cod-liver oil, and various other liquids, which are without action upon the substance of the wafer, may be readily administered by means of the cachets de pain, or wafer-capsules. It is only necessary to unite the two empty halves of the capsule together in the usual manner leaving, however, a very narrow line of the edges unmoistened. Through this opening the necessary quantity of oil is introduced into the interior by means of a fine-pointed pipette, after which the orifice is closed by simply moistening it. Or else the oil may be placed upon the cavity of the lower wafer, and the upper wafer be affixed to it in the usual manner. [This process is not new, but is less often thought of than it deserves.—Ed. N. R.].—*Rép. de Pharm.*, 1877, 257.

Action of Boracic Acid on Plants.

According to Eug. Peligot, even very small quantities of boracic acid, either free or in combination, are fatal to plants. It is suggested that they may also be deleterious to animals, and if so, the foods preserved by means of borax, such as fresh meats received from Buenos Ayres, even though washed before use, might be injurious to the persons eating them. The question is being investigated further. [The probability is, that boracic acid will be found entirely harmless to animals and man, as it has been hitherto supposed to be, it having merely a destructive action upon the living cell-walls of plants, thereby preventing the development of microscopic fungi even in animal tissues.—Ed. N. R.].

India-Rubber and its Degree of Solubility.

A chemist named Heeren has determined by experiment that great differences exist in the degree of solubilities of various samples of India-rubber. Guayaquil rubber was found to be most soluble, one hundred parts of benzol taking up as much as twenty-five parts of rubber. Next came Para, of which twenty parts were dissolved by one hundred parts of benzol. Carthagena and Borneo samples came next in order. The worst samples, so far as solubility was concerned, were so-called Africa-Knökels, Africa-Niggara, and Madagascar. This latter was very difficult of solution, one hundred parts of benzol taking up six parts only of the rubber.—*Photographic News.*

Boracic Acid Contaminated with Lead.

At the March meeting of the Pharmaceutical Society of Paris, Mr. Schäuffèle presented a sample of boracic acid containing a considerable quantity of lead, and drew attention to the serious consequences which may result from this impurity, in view of the frequent employment of boracic acid as an antiseptic and preservative of food.

Ergot in Atony of the Bladder.

Prof. von Langenbeck, at a meeting of the Berlin Medical Society, stated that in atony of the bladder, associated with enlarged prostate, in elderly men, in which the organ is never completely emptied of urine, he had lately tried the hypodermic injection of ergotin with most surprising results. In three cases, the contractile power of the bladder was at once increased so as to enable the patient to discharge additional urine, and in a few days it had so augmented that very little urine was left behind. After one or two injections the improvement was considerable, and even a diminution in the size of the prostate seemed to have ensued. Dr. Israel said that he had derived the same benefit from the employment of ergotin, and referred to the case of a patient who was thus enabled to hold his water for three hours, whereas before he voided it every ten minutes.

RECENT PAPERS.

Répertoire de Pharmacie. Nos. 8, 9.

P. CAZENEUVE and O. CAILLOL: "On the Extraction of Organic Principles." (See p. 200.)

P. GUYOT: "Test for Iodoform." [Since iodoform is decomposed by heat into carbon, iodine, and hydriodic acid ($CHI_3 = C + I_2 + HI$; or rather $2CHI_3 = C_2 + 2I_2 + 2HI$), the author proposes to test for small quantities of iodoform as follows: The liquid to be examined is placed into a small flask closed with a perforated cork, carrying a glass-tube bent at right angles, and the outer limb of which is rather long. At a point distant from the cork a fragment of starch is introduced. Heat being applied to the flask, vapor of water and of iodoform is driven over, which is decomposed by heating the tube slightly in front of the outer angle, whereby a little carbon and farther on some iodine is deposited. The latter may be sublimed along the tube, and on reaching the starch will color it blue.]

S. LIMOUSIN: "Method of Administering Oils by means of Wafer-Capsules." (See p. 206.)

G. LECHARTIER AND F. BELLAMY: "On the Presence of Zinc in Animals and Plants." [The authors have found that the human liver contains, probably as a regular constituent, small quantities of zinc; a weight of 1,780 gm. of fresh liver yielding about 0.02 gm. of zinc oxide. This led them to search for zinc in animals serving as food for man, and in plants serving as food for both. They obtained 0.03 gm. of zinc oxide from 913 gm. of the muscular tissue of an ox; 0.02 gm. of zinc oxide from 1,152 gm. of eggs, minus the shells; and found it also in grain, Indian corn, barley, millet, and white Italian beans]

OBERLIN AND SCHLAGDENHAUFFEN: "On the True Angostura Bark of Colombia." [The authors announce in this bark the presence of an alkaloid, crystallizable, soluble in ether, chloroform, and petroleum ether, and entirely different from Saladin's cusparine. The authors have chosen the same name, *cusparine*, for theirs.]

HECKEL AND SCHLAGDENHAUFFEN: "On the Oil and Oleo-Resin of Calophyllum." [The commercial *Baume Marie*, *Green American Balsam*, *Oriental Tacamahac*, etc., is nothing else than the oil and resin of *Calophyllum Inophyllum* (Guttiferae), a tree which is named *tamananou* or *pit* in Polynesia, and kaï-meu-how in Cochin China. It is found from Tahiti and New Caledonia as far as Madagascar in the Indian Ocean. By incision, or spontaneously, it yields an oleo-resin, which we know as "oriental tacamahac." This oleo-resin is accompanied by a *fixed* oil, which is called tamanou-oil, and has a green-yellow color.]

Pharmaceutische Zeitung. Nos. 29–42.

KOBLIGK: "On Markoe's Process for Preparing Phosphoric Acid."—[The author reports that he has tried the method repeatedly, and has failed, as the reaction became too energetic, and caused explosion.—Perhaps not sufficient care was taken in adding the bromine slowly enough.—Ed. N. R.]

THEOD. HUSEMANN: "On Chronic Lead-Poisoning."—[It is well-known that a lemonade prepared with sulphuric acid has been recommended for the use of workmen in white lead factories, by which any absorbed lead might be converted into insoluble sulphate of lead, and thereby rendered harmless. This salt, however, is not so innocuous as has been supposed. An undoubted case of lead-poisoning has been caused, according to Dr. Cantani, of Naples, by the use of a face-powder consisting entirely of lead sulphate.]

C. SCHACHT: "On the Quantitative Determination of Metallic Iron in Ferrum Redactum."—[The author reviews the tests of purity which are given in the various pharmacopœias, as well as the processes proposed by various investigators for its assay. The most usual method was to treat reduced iron with a solution of iodine of known strength, allowing it to macerate until all the iron had combined with iodine, and then determining the excess of iodine by means of standard hyposulphite solution. Creuse's process, consisting in measuring the hydrogen set free by a given amount of the reduced iron on addition of an acid, is also reviewed by the author, who cannot fully endorse it. He made a series of experiments to determine the best method of assay, and found the following results:—A. The iron is digested either with iodine or with bromine solution of known strength, at a temperature of 40–50° C. In this case no uniform results could be obtained. Moreover, the bromine is so apt to escape from the bromine water, that the employment of the latter is unadvisable. The author, therefore, substituted for it a solution of bromine (5 gm.) and potassium bromide (7.5 gm.) in 100 cc. of water. B. The iron is *macerated* either with iodine or with bromine solution (made as just stated), at ordinary temperatures. In this case it was found that iodine gave likewise unreliable results; different quantities of the same sample of iron yielding very varying percentages of pure iron. On the other hand, by treatment with the bromine solution, the results obtained were quite satisfactory, the differences observed in the same sample never exceeding 0.54 per cent. Perfectly pure reduced iron (such as is made by Dr. A. Rundspaden, in Hameln, a. d. W., and sold as "*Ferrum reductum purissimum*,") was found to be entirely soluble in a solution of ferric chloride of spec. grav. 1.300. The author concludes by giving the following criteria for pure reduced iron: "An exceedingly fine, gray, loose, lustreless powder, which becomes converted into ferric oxide by heating in the air. It should be completely soluble in warm, diluted, pure hydrochloric acid, and the evolved gas (hydrogen) must be entirely indifferent against paper impregnated with lead acetate. When treated for half an hour with 25 parts of a solution of ferric chloride of spec. grav. 1.300, in a glass-stoppered vial, under repeated shaking, it is entirely dissolved.]

OTTOKAR ALT: "On Caroba."—[Drawing again attention to the valuable properties of the leaves of *Jacaranda procera* or *Brasiliensis*, which is known in the market as *Caroba* or Caa-roba or Caraïba. It is said to be a most effective remedy in the various forms of secondary syphilis, promoting increased action of the skin, and exciting appetite. It is generally prescribed in the form of decoction: 8 gm. in 300 gm. decoction per day. The powder or extract is used as a local application to syphilitic sores. The extract may be obtained from J. v. d. Heide, in Hamburg.]

"A new Fish-liver Oil. [Dr. Markonnet, of St. Petersburg, has made experiments with the oil obtained from the livers of lampreys (Petromyzon fluviatilis), which are obtained in immense quantities at the mouths of rivers emptying into the Caspian Sea. It looks like olive oil, has a tolerably agreeable taste, is thinner than cod-liver oil, contains more iodine than the latter, and is an efficient substitute for it. Its price is only about ⅓ of that of cod-liver oil.]

BARRAL: "On the Detection of Iodine in Cod-Liver Oil." [As the saponification and subsequent incineration of cod-liver oil often causes a loss of the more volatile substances, among them also of iodine, the author proposes a new plan. The oil is burned with a wick in a glass lamp, covered with a large bent tube, the draft caused by the flame and the ascending fresh air carries the products of combustion into the descending portion of the tube, where they are received in water. This solution is then supersaturated with caustic potassa, and evaporated to dryness. The residue is mixed with fresh starch-solution, and a drop of the mixture having been transferred to a watch-glass, chlorine water (a drop) is added. In the case of fish-oil the blue iodide of starch always makes its appearance.]

Bulletin de Thérapeutique.

M. A. PETIT: "Conia and its Salts." [The author states that conium presents several properties which differ materially from those generally admitted.

It boils at 170° Cent., with a pressure of 760 mm. Its density at a temperature of 12° is 0.846. Its polarimetric power is equal to + 11 immediately after it is prepared, but it gradually diminishes until it becomes nearly constant at + 10.36, which corresponds to 81° saccharometric for a tube 2 decim. in length filled with pure conia.

One c.c. of pure conia should give 1.093 gm. of anhydrous chlorhydrate, containing 21.9 per cent. of chlorine, and should exactly saturate 6.65 cc. of a solution of monohydrated sulphuric acid containing 50 grammes to the litre.

Ether, oil, and benzine are without action over its rotary power; chloroform diminishes it, but much less so than alcohol, which lowers it to + 7.42°.

The bromhydrate and chlorhydrate are fine anhydrous salts, entirely permanent even at 120°, very soluble in water or alcohol, and having a rotary power six times as great in alcoholic as in aqueous solution. The best method for obtaining them is to saturate pure conia distilled in a current of hydrogen, with bromhydric or chlorhydric acid, employing only that which passes over at a fixed temperature of 170°; then by slow evaporation in a water-bath the salts are obtained in beautiful colorless crystals.]

E. LELU AND G. LUGAN: "Note on the Employment of the Double Cyanide of Zinc and Potassium in Articular Rheumatism." [The authors consider this preparation more sure in its effects, and easier to manage than any other form of hydrocyanic acid.

It is not altered by exposure to the air. It is soluble, and its chemical composition is constant.]

Journal of the Chemical Society.

May. J. STENHOUSE AND CH. E. GROVES: "Note on Gardenin and on Ginger." Dikamali Resin,* the resinous exudation of *Gardenia lucida* Roxb., contains a crystallizable resin, *gardenin*, which the authors have re-examined. They obtained it in brilliant deep yellow needles, for which they obtained the corrected formula: $C_6H_8O_3$.—The resinous substance contained in *Ginger*, to which it owes its pungency, was subjected to a preliminary examination, and protocatechuic acid was obtained from it, showing that it stands in close relationship to the so-called aromatic series.]

A. DUPRÉ: "On the Estimation of Urea by means of Hypobromite." (See next number.)

DR. MAXWELL SIMPSON AND C. O'KEEFE: On the same subject. (See next number.)

Pharmaceutical Journal and Transactions. Nos. 359-364.

"THE MONTH": [A number of spurious drugs have appeared upon the London market: capalchi bark was offered as angostura bark; Para bark, devoid of alkaloids, but closely resembling quilled calisaya, was offered as such; besides a spurious cinchona, *Stenostomum acutatum*. Black or striated ipecacuanha (*Psychotria emetica*) was tendered at a lower price than the true root. Indian dill seed (*Anethum Sowa*) have been offered as Sowu seed—instead of common dill seed.]

Enonynim and Iridin (from *Enonymus artropurpureus*, Wahoo; and *Iris versicolor*, Blue Flag) have been highly spoken of by Dr. Rutherford and M. Vignal, as very valuable cholagogues.

A new highly-praised remedy for skin-diseases, said by Dr. Murray to produce wonderful effects in some cases of tinea and eczema, is a new Chinese drug, *Tong pang chong*, said to be the product of *Akebia quinata* Dec., nat. fam. Berberidaceæ.]

W. DYMOCK: "Notes on Indian Drugs." [*Cassia alata*, local Dadmurdun.† Used like senna.—*Cassia auriculata*, local Turwar or Awul. The bark is an astringent.—*Daemia extensa*, local Ootemee. The leaves have a reputation as an expectorant and emetic.—*Ailanthus excelsa*, local Maharook. The bark is as bitter as quassia, and is a promising drug.—*Abutilon Indicum*, local name of seed Bulbij. Seeds are mucilaginous.—*Brachyramphus Sonchifolius*, local, Voondracha Kan. Called "Goa Taraxacum," or "Rat's Ear." It is used as a substitute for taraxacum.—*Boerhavia diffusa*, local Punanarwa. The dried herb is used as an expectorant.—*Mimusops Elengi*, local Wowlee. The bark is bitter and astringent.—*Soymida febrifuga*, local Rohun. Bark used as astringent tonic.—*Erythræa Roxburghii*, local Chota Chirayta. The whole plant is a good bitter, like the true Chiretta (Agathotes Chirayta).]

E. M. HOLMES: "The Cultivation of Medicinal Plants at Banbury." [Mr. Rufus Usher, of Bodicote, near Banbury, is a cultivator of medicinal plants. Of 65 acres under cultivation, 20 are devoted to rhubarb, 40 to henbane and 4 or 5 to white poppy, besides a little Rosa Gallica.

Among other species of Rheum, Mr. Usher also grows the new *Rheum officinale*, of which he has about 40 large plants, which are truly magnificent, each occupying a space 8-10 feet square, and being 4-5 feet high. Some of the leaves are nearly 3 feet broad, and a little longer than broad.

Henbane culture is beset with great difficulties. It grows slowly, is often choked by weeds or the roots are destroyed by worms, so that whole patches are left barren. Hence the high price. The plants are collected for drying about the 3d week in June. The upper leaves are deprived of the midrib, and these as well as the flowering tops are dried, and form the best biennial henbane of commerce. The lower leaves and stems are used for preparing extract, being crushed under an edge runner, the juice expressed by hydraulic pressure and evaporated. The leaves and tops are dried in kilns, of which 7 are in use at once.]

Liebig's Annalen der Chemie. 187, 1.

C. STEIN: "On Phosphatic Sediments in Alkaline Urine." [A patient suffering from some gastric disease voided a urine containing triple phosphates, and peculiar microscopic, colorless, refracting, rhombic plates of an unknown character. The urine was *alkaline*. These singular crystals turned out to be magnesium phosphate. The authors also found the latter in the urine of horses.]

L'Union Pharmaceutique. Nos. 3-5.

BOUCHARDAT: "Pasteur's Cinchonidia Sulphate and the Quinidia Sulphate of German Manufacturers." (See next number.)

DR. MERZ: "On Quinia Sulphovinate and its Use in Intermittent and Malarious Fevers." [Reporting that he has used a watery solution of this salt with complete success, and without local lesions, hypodermically.]

LAMY: "On the Manufacture and Properties of Celluloid." [Celluloid is the name of a substance invented and patented about 3 years ago in the United States. It is mainly a mixture of pyroxyline with camphor, and is manufactured as follows: A sheet of endless paper is subjected to the action of 5 parts of sulphuric and 2 parts of nitric acid; the acids are removed by washing and pressure; the washed paste when partially dried is ground in a mill and then mixed with camphor. It is then subjected to powerful pressure in a hydraulic press between fine blotting paper, after which it is cut, ground and again pressed in a special apparatus where it can be heated, and which yields the crude celluloid in sticks or plates, as an elastic and transparent mass. The various operations are performed in 4 separate fire-proof buildings. Celluloid is inflammable, although not very easily, and is decomposed when heated over 135° C.]

P. J HAAXMAN: "On the Preparation of Neutral Tannate of Quinia." (See next number.)

M. PLANCHON: "On the *Hoang-Nan* Bark." [In our May number, page 147, we gave a short notice of a drug which has been highly extolled by the resident missionaries of Tonquin. Mr. Planchon has since then received specimens of the bark, and declares them to belong undoubtedly to a species of *Strychnos*. The anatomical structure and the chemical composition equally confirm this. F. Würz has found in it strychnia and brucia, the latter in larger quantity than the former. The reddish powder which is found upon the bark, and which is said to be the active portion, is exactly analogous to that found on the so-called "False Angostura Bark," which has been analyzed by Pelletier, and was found by him to be entirely inert. Most likely the bark is used in conjunction with the powder, and hence the active effects.]

La Ruche Pharmaceutique. Nos. 3-5.

P. GUYOT: "New Source of Citric Acid." [The juice of the *tomato, Solanum Lycopersicum* L., was found by the author to owe its acidity to citric acid.—The presence of this acid in various species of Solanum has long been known. —Ed. N. R.]

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* See *February number*, p. 49.

† Recommended by Dr. David Foulis and others as a remedy for ringworm. The leaves contain chrysophanic acid.

American Journal of Pharmacy.

June. A. B. Taylor: "Proposed Changes in the U. S. Pharmacopœia." [Continuation of the arguments against the plan proposed by Dr. Squibb. Followed by some important recommendations in respect to the actual work of revision, and showing the difficulties in the way of introducing parts by weight, exclusively, into the official formulæ.]

P. P. Fox: "Tincture of Kino, which will not Gelatinize." [Kino in fine powder, 360 grains. Mix 4 measures of alcohol with one each of water and glycerine, mix the powder with an equal weight of dry sand, introduce it into a glass percolator, and gradually pour the menstruum upon it, until ½ pint of tincture is obtained.]

Th. G. Davis: "Liniment Iodide of Ammonia." [Reports having assayed the quantity of *iodine* contained in "Giles' Liniment Iodide of Ammonia," and found it to contain only very trifling quantities of it.

The author recommends a formula for a reliable "Liniment of Iodide of Ammonium," which will be found on page 222 of this number.]

Berichte der Deutschen Chemischen Gesellschaft. Nos. 8, 9.

Hugo Schiff: "A New Reaction for Urea." [On adding to a solution of urea in about 3 parts of concentrated solution of furfurol,[*] a few drops of concentrated hydrochloric acid, the liquid becomes warm, gradually assumes a magnificent purple-violet color, and finally congeals to a firm brownish black mass. Alcoholic solutions behave in the same manner. The only other substance (of an amide character) which gives this reaction is allantoin. The reaction is so delicate that a single drop of a 1% urea solution mixed with ½ cc. of furfurol solution and 3 drops of hydrochloric acid, still gives an intense coloration after five minutes.]

Pharmaceutische Centralhalle. Nos. 18–20.

H. Hager: "Spontaneous Explosion of Bismuth Subnitrate." [A singular case occurred to an apothecary in Schwartau, Germany, whose stock-bottle of bismuth subnitrate exploded one evening in the store. The preparation had been made by the apothecary himself, strictly according to the directions of the pharmacopœia. It is supposed that a concussion, caused by working a pill-mass in a mortar, started the explosion, but its cause is a mystery. Dr. Hager desires to know if any other similar cases have been observed.] We never heard of Bismuth Subnitrate exploding; but cases of explosion of a mixture containing Sodium Bicarb. and Bismuth Subnit. are related in *Pharm. J. and Trans.*, June 23, 1877, and elsewhere.—Ed. N. R.

H. Hager: "Lead in Ammonium Chloride." [A lot of ammonium chloride (muriate) has been met with which was found to be contaminated with 1.125% of lead chloride.]

G. C. Wittstein: "On Zinc Sulphate accompanied by Magnesium Sulphate, and vice versa." [Having already years ago noticed the regular occurrence of magnesium in the commercial crude white vitriol, the author has now also discovered its presence in metallic zinc, which may besides contain aluminium.]

G. C. Wittstein: "On the Quantitative Estimation of Soda and Potash, when present together." (See next number.)

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Import Duty on Quinia.—At the meeting of the seventy-ninth annual convention of the Medical and Chirurgical Faculty of Maryland, held on the 10th, and two following days, of April, the resolution of Dr. J. B. Lynch that the President, Vice-President, and Secretary be appointed to memorialize Congress and correspond with medical societies with reference to the removal of import duty on quinia, was unanimously adopted.

ORIGINAL COMMUNICATIONS.

SODA-WATER APPARATUS.

PRACTICAL HINTS CONCERNING ITS SELECTION AND MANAGEMENT, AND SUGGESTIONS AS TO THE BEST METHODS OF MAKING AND DISPENSING CARBONATED BEVERAGES.

(Continued from page 180.)

With reference to generators the main points to be considered, aside from expense, are the safety and convenience of the druggist and his assistants; but, as regards fountains, the overwhelming consideration, quite irrespective of cost, should be the safety and benefit of the soda-water drinking public. The phrase, "irrespective of cost," is used advisedly, for the man who cannot afford to buy good fountains has no right to ruin the business by using those which are dangerous even when new, and which soon begin to produce nausea, disgust, and even worse results, in those who drink the water contained in them.

The fountains in general use at the present time are of four kinds as regards the external shell, namely, copper, cast-iron, wrought-iron, and steel; and of three kinds as regards the interior, namely, tin-washed, tin-lined, and enamelled. The different styles from which a choice must practically be made are shown in the following table, giving the average prices of ten-gallon fountains of various kinds:

Copper, tin-washed	$40
Cast-iron, enamelled	40
Cast-iron, tin-lined	43
Wrought-iron, tin-lined	45
Steel, tin-lined	50
Copper, tin-lined	60

Besides these there are also in use a limited number of glass-lined iron fountains, employed mainly for mineral waters, and a very few silver-lined copper fountains, designed for carbonated wines. The glass-lined fountain of the ten-gallon size costs about $75, is much less durable than the tin-lined or even the enamelled one, and for soda-water is no better. The silver-plated fountain of the same size is worth about $100, but for ordinary use the steel tin-lined fountain, costing only half as much, is fully equal to it, and in important respects decidedly superior. Both of these kinds may therefore, on the score of expense, be left entirely out of the account.

The tin-washed copper fountain, which stands first on our list, is the curse of the soda-water trade, and deserves a blacker mark than we have given it above. This "tin-wash" is really a kind of alloy, for it is put on by pouring the melted tin over the copper, with which it unites, thus bringing to the surface coppery particles which begin to be worn off and to corrupt the water the very first day the fountain is used. After a few weeks this preliminary stage of slow copper-poisoning is passed, and then for some months, perhaps a year, but never for more than two years, the fountain is comparatively harmless, as far as the copper is concerned. Sooner or later, however, the film of tin wears through, and if, by carelessness in charging, any sulphuric acid gets into the fountain, the mischief is very quickly done. With this film once worn away, the copper-poisoning recommences and steadily proceeds, growing worse and worse according to the amount of copper surface uncovered, and the length of time the water stands in the fountain before being used. This state of things is surely bad enough, but it is very generally aggravated by the practice of strengthening the brazed seams of such fountains with common solder instead of with pure tin, thus setting up a mild lead-poisoning from the outset. This may not be noticed, but, when the copper begins to work, the customers are very apt to discover that soda-water does not agree with them, somehow, any more; old drinkers gradually discontinue the practice, and new ones find a single trial all they care for, and secretly wonder how it is that so many people pretend to like soda-water. This avoidance may save the public from any serious injury, but it is ruin to the business. Many a puzzled druggist, after a year or two of success, has seen his trade unaccountably dwindle away, and has innocently attributed the change to "hard times" or "popular caprice," never suspecting that the treacherous fountains in the cellar, apparently as sound and good as ever, were really the cause of the whole mischief.

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[*] Furfurol, or pyromucic aldehyde, or artificial oil of ants, $C_5H_4O_2$ or $C_4H_3O.CHO$, is produced by the dry distillation of sugar, and by the distillation of bran, flour, gum, sawdust, etc., with dil. sulphuric acid. It is a colorless oily liquid of an aromatic odor, of spec. gr. 1165, soluble in water, alcohol, and ether.

The truth of this is illustrated on a large scale in the two cities of Philadelphia and New York. The former has fewer inhabitants, but its summers will average hotter, and the soda-water business was started there earlier—two facts which should bring the consumption nearly to the point reached in New York. But in fact, at the present day, New York uses ten times as much soda-water as Philadelphia! The consumption there has actually dwindled, owing to the general use of old tin-washed copper fountains, while in New York it has enormously increased, especially since the introduction of the tin-lined steel fountain, in which any contamination of the water is impossible. Notwithstanding the continued hard times, a New York firm, using these fountains, sold more soda-water during a single week of this last May than in any week in any previous May during a business of nearly half a century.

It is also a peculiarly significant fact that a leading manufacturer of these tin-washed copper fountains candidly confessed to the agent of a tin-lined iron fountain manufacturer: "I never drink anything from my own fountains. Whenever I want any soda-water I make it a point to get it at some place where they use your fountains." Equally significant is it that hundreds of old copper fountains, which are taken in part payment for new and improved ones, and which might readily be resold, especially to Western purchasers, are annually broken up for old metal at a loss of six or eight dollars on each fountain, merely because conscientious and far-sighted manufacturers prefer to sacrifice thousands of dollars of immediate profit, rather than connive at anything so injurious to the soda-water interest as the continued use of these poisonous fountains.

The magnitude of this evil may be inferred from the fact —from the deplorable fact—that fully one-half of the fountains in use in the United States and Canada are of the tin-washed copper kind, and of these a very large proportion have reached the point at which they become worse than worthless. It would give us great pleasure to believe that no reader of New Remedies is using an old copper fountain, but the chances are greatly against such a happy state of things. However, as to what ought to be done at once, wherever there is a tin-washed copper fountain in use, there cannot be the slightest doubt. After dispensing the contents, take the few ounces of water usually left in the bottom of the fountain after it is emptied by the pipe in the usual way, and test it carefully with the common chemical tests for copper and lead. If the liquid is free from any trace of these poisons, repeat the test in the same manner at short intervals during the summer, especially when the water has stood in the fountain for any more than the ordinary time. Always examine the dregs, the practice of testing the liquid when newly made being altogether delusive. When you find enough copper or lead in the water so that, if you had a particularly delicate digestive apparatus, you would hesitate to swallow a glassful of it yourself, put aside that fountain, and either get a new tin-lined or enamelled one, or else—*quit the business!* This may be—nay, it is— a rather "heroic" prescription, but it is required by the emergency. To sell such a drink, even though only the purchasers of the last two or three glasses in the fountain get the really "bad stuff," is unworthy an honest business man, and especially unworthy an intelligent pharmaceutist. Furthermore, it is destruction to the business, for that fountain is sure to go from bad to worse, and you will do your trade less harm to throw it aside, and even to stop selling, if need be, for a week or a month, or the whole season, than to go on using it. At all events, if you haven't "pocket courage" enough for this, throw away the last few glasses in every fountainful, and all that may have stood over forty-eight hours, even if it be the entire contents.

It is devoutly to be hoped, however, that no such temporizing policy will be adopted. "Reform it altogether" is the only safe maxim to follow in dealing with the old copper fountain evil. Don't throw away good money and buy a certain recurrence of the mischief by having the thing re-washed, and don't let it fall into the hands of any conscienceless chap who will go on using it to the destruction of the business and the public stomach, but smash it up at once, and sell it for what it will fetch as old metal. Assuming that you have resolved on this course, some hints as to the selection of a new fountain will come next in order. In the first place: *Have nothing to do with copper.* It has only two advantages: it is comparatively light, and does not require painting to keep it from rust. But when tin-washed it is a nuisance, and when tin-lined it makes one of the most expensive of fountains. Wretched quality on the one hand and high price on the other must rule out copper entirely. Beware, particularly, of plausible agents who offer you cheap copper fountains "lined with pure tin." This sounds well, but it means "tin-washed." A copper fountain lined with *pure sheet-tin* cannot be sold cheap. It is a particularly safe rule to buy fountains only of a manufacturer of recognized integrity, because even an expert cannot always distinguish by inspection between the tin-washed and the tin-lined ones.

Excluding copper, as common sense requires us to do, the choice is limited to iron and steel. The cast-iron enamelled fountain costs no more than the tin-washed copper one, and in its essential qualities is much superior. There is a chance for trickery here, also, for the enamel is a kind of porcelain glazing, and there is a temptation to mix lead with it to facilitate putting it on. This, of course, can only be guarded against by buying of a trustworthy manufacturer. The cast-iron fountain, when tin-lined, costs only a few dollars more, but the sheet-tin, which is really a complete fountain in itself, encased in the iron jacket, may be expected to last ten years before requiring to be renewed, while the enamel will probably begin to scale off, making re-glazing necessary, in half that time. The great objection to these fountains is their weight, but with most druggists this is a matter of comparatively little moment. When it is at all serious, the tin-lined wrought-iron one, equally durable and very much lighter, may be had for a small additional expense. Enamel, it should be observed, can only be used on the heavy cast-iron ones. The perfection of portable fountains is found in those made of steel, which combine strength and great lightness with such a complete and flexible union between the tin lining and the outer shell that the former is calculated to wear as much as fifteen years before needing renewal. The steel fountain will not stand such rough usage as the iron ones, especially the cast-iron, and it must be kept constantly painted, or rust may speedily and seriously injure it. The iron ones ought, also, to be kept painted, but the risk from rust is far less. For the wholesale soda-water dealer the steel is much the best, but for the average druggist the choice may well fall on the tin-lined cast-iron fountain. It is reasonable in price, will endure neglect and hard usage with equal fortitude, will last ten years before it needs re-lining, and for keeping soda-water perfectly pure is all that need be desired. The enamelled cast-iron is a little cheaper, and practically as good during the five years that the glazing lasts. It is even to be preferred for certain alkaline carbonated waters, which are apt to become sour in tin. Probably, also, it is expedient to select the enamelled fountain for use wherever the winters are very cold, as in Canada and Northern New England, from the fact, not very generally known, that at very low temperatures pure tin is liable to suffer a peculiar crystalline degeneration, which is likely to shorten the life of the tin lining by one-half in the colder latitudes to which soda-water apparatus goes. This sort of degeneration is sometimes a very serious matter. A quantity of pure tin tea-pots made for the Russian government were found, after two or three years' storage, to be reduced to a heap of blackened fragments. The manufacturer was arrested and in imminent danger of Siberia or the knout, despite his protestations, when, fortunately, some of the fragments were sent to Bunsen, who pronounced them pure tin, and further investigation showed that the extreme cold had caused this destruction, although alloyed tin, strangely enough, is quite unaffected by it.

In brief, then, in selecting your fountains, eschew copper; take iron for stationary, steel for portable use; for cheapness and for cold climates choose an enamelled lining, making sure that it is free from lead; to secure the best value for your money get the pure sheet-tin lining (except for cold climates) and always insist that it be soldered with pure tin and not with common lead solder.

The management of good iron or steel fountains is very simple, and you cannot easily go astray. Charge them with care, according to the suggestions already made with reference to the generator. Keep them painted, steel ones especially, and see that no water is left in them to freeze. If they have been in use long, inspect them carefully, at the end of each season, to see if they need re lining or re-glazing; don't wait till the next spring, when there will be no time to repair them, even if they require it. Be satisfied with the common method of agitation and do not get the fountains with agitators inside; they are advantageous only in the very large sizes made for bottlers. And always use faucets of pure tin encased in a hard metal jacket, scrupulously avoiding the brass tin-washed faucet in too common use, the poisonous effect of which, when worn, is usually much intensified by concentration in a single glass.

In treating of the fountain, thus far, we have had special reference to the needs of the average druggist, who merely makes soda-water for his own use; but, before leaving the subject, something should be said of the remarkable field opened by the steel fountain to enterprising druggists with capital enough to go into the wholesale manufacture of soda-water. Experience shows that the consumption of this beverage may be astonishingly increased by (1) insuring its perfect purity, and (2) multiplying the number of places where it is sold. Four-fifths of the soda-water dispensed from fountains is drunk in the very warm weather—in weather when people will do without, sooner than go far for it, yet will drink freely if it is close at hand. But the cost of generators and fountains is so great, and the trouble of manufacturing the water appears so considerable to the inexperienced, that many small dealers hesitate to embark in the business, though they would gladly undertake it if they could be sure of getting pure soda water delivered daily in fountains, and be put to no special outlay beyond the purchase of a simple counter apparatus. The results attained through the aid of the steel fountain, by those engaged in building up this form of the soda-water business, are almost incredible. A Boston man, after securing in three years a trade requiring the use of one hundred and fifty old-fashioned copper fountains, was persuaded to discard them and try steel; in a single season he quadrupled his trade, making six hundred fountains necessary, and thus placing himself at the head of the business in that city. In Philadelphia, Mr. G. in one year put eight hundred steel fountains in use, distancing at a bound long-established rivals whose trade was actually dying through the dry rot of worn-out copper.

Dismissing now this branch of the subject, and returning to our average druggist, let us suppose him happily rid of any copper fountains he may have been so unfortunate as to have, and well supplied with pure soda-water in iron or steel fountains, tin-lined or enamelled. The next and last point to be considered is the very important one of the proper apparatus and accessories for dispensing the beverage in the manner at once most convenient to himself and most satisfactory to his customer.

(To be continued.)

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Castor-Oil Wafers.—M. Limousin exhibited, at a recent meeting of the Société de Thérapeutique, in Paris, a sample of medicated wafers, containing 3 to 4 grammes of castor oil each.

THE ACTION OF CERTAIN MANIPULATIONS AND REAGENTS ON CALOMEL.*

BY FRED. M. CORWIN, PH.G.

MERCURY forms two classes of salts, one containing proportionately twice as much acid radical as the other, and each convertible into the other by certain agents.

The mercurous chloride, or calomel, is mild in its action on the human system, being a safe and much-used remedy.

The mercuric chloride. and mercuric salts in general, are powerful and corrosive agents, often producing serious and fatal results.

The object of the following experiments was to ascertain whether *mercuric* salts were produced from *mercurous* (namely *calomel*) by the agents and methods described.

The agents were either physical or chemical.

The physical agents were trituration, boiling with water, and sublimation.

The chemical agents were certain dilute acids and salts of the U. S. P.

The tests used for the detection and identification of mercuric mercury were metallic copper and hydrosulphuric acid in strongly acidified solutions.

In all cases where a deposit was obtained on copper, the copper, after being thoroughly washed and dried, was placed in a clean dry test-tube and heated to redness.

If mercury was present it sublimed and collected in a cooler part of the tube. A crystal of iodine was then placed in contact with it, and heat again applied, when the yellow iodide of mercury turning red by friction sublimed in another part of the tube.

The hydrosulphuric acid was added in small portions at a time, producing at first a light colored precipitate, turning yellow, orange, brown, and black as the successive portions were added. This reaction is characteristic of a mercuric salt.

Several attempts to obtain absolutely pure calomel proved unsuccessful. That used, being the purest which was examined, was found to contain a small quantity of ferric iron, probably as ferric chloride.

I. PHYSICAL AGENTS.—a. *Trituration.*—About two drachms of calomel were rubbed in a dry porcelain mortar. On moving the pestle through it with pressure, it produced shining *straw-yellow* streaks, and the whole powder gradually assumed a yellowish tint. After rubbing for half an hour it was macerated with water, filtered, and the filtrate acidified with hydrochloric acid.

Copper: no action. Hydrosulphuric acid: no action.

b. *Boiling.*—1. About two drachms were heated in a flask with water, on a water-bath, for fifteen minutes, the mixture filtered, the filtrate evaporated about one-half on a water-bath, and acidified with hydrochloric acid.

Copper: no action. Hydrosulphuric acid; no action.

2. About two drachms were boiled in a flask with water by direct contact with flame, and under constant agitation, for fifteen minutes, filtered, the filtrate evaporated about one-half on water-bath, and acidified with hydrochloric acid.

Copper: *a deposit.* Hydrosulphuric acid: *characteristic precipitate.*

c. *Sublimation.*—1. About twenty grains were heated in a dry test-tube, the heat being only sufficient to slowly sublime it. It was then macerated with a small quantity of water, filtered, and filtrate acidified with hydrochloric acid.

Copper: no action. Hydrosulphuric acid; no action.

The sublimate was perfectly white.

2. About twenty grains were heated so as to sublime rapidly, the glass becoming red hot. It was macerated with water, filtered, and the filtrate acidified with hydrochloric acid.

Copper: *a deposit.* Hydrosulphuric acid: *characteristic precipitate.*

The sublimate had a grayish appearance in places, probably due to metallic mercury.

II. CHEMICAL AGENTS.—a. *Acids.*—The acids used were the dilute acids of the Pharmacopœia. About a drachm of calomel was placed into a five-inch test-tube, the tube was nearly filled with an acid, and allowed to macerate for three days, being agitated occasionally. It was then filtered and the filtrate evaporated about one-half on a water-bath.

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* From a thesis presented to the College of Pharmacy of the City of New York.

With some acids a change was noted in the appearance of the calomel; with others it remained unaltered. The following table exhibits the results:

Acids.	Copper.	Hydrosulph. Acid.	Appearance.
Hydrochloric......	Deposit.	Characteristic ppt.	Unchanged.
Nitric	Not used.	" "	"
Sulphuric..... ...	No action.	No action.	"
Hydrocyanic	Deposit.	Characteristic ppt.	Turns dark.*
Nitro-hydrochloric.	Not used.	" "	Unchanged.
Phosphoric........	No action.	No action.	"

b. *Salts.*—Of the salts used, sixteen were in solution with water. The solutions were made by dissolving one part of the salt in ten parts of water, with one exception, namely, the potassic chlorate solution, which was made by dissolving one part of the salt in twenty parts of water.

About half a drachm of calomel was placed into a five-inch test-tube, the tube nearly filled with a solution and allowed to macerate three days with occasional agitation. It was then filtered, and the filtrate acidified with hydrochloric, nitric, or sulphuric acid, according to the character of the salt.

With some of the solutions a change was noted in the appearance of the calomel, either immediately or on standing.

Solution of	Copper.	Hydrosulph. Acid	Appearance.
Potass. Bromide....	Deposit.	Characteristic ppt.	Lead color.
" Chlorate....	No action.	No action.	Unchanged.
" Cyanide...	Deposit.	Characteristic ppt.	Dark, nearly black
" Hypophosphite......	No action.	No action.	Unchanged.
" Nitrate.....	"	"	"
" Sulphate...	"	"	"
" Sulphite ...	"	No ppt. Separation of S.	Greenish gray.
Pot. & Sod. Tartrate	Deposit.	Characteristic ppt.	Unchanged.
Ammon. Bromide...	"	" "	Slate color.
" Chloride...	"	" "	Unchanged.
" Iodide.....	"	Orange red ppt., which gradually turns dark, same as $HgCl_2$ in NH_4I.	Turns yellow, then dark with green tint. Solution is yellow.
" Nitrate....	"	Characteristic ppt.	Dark at point of contact. Gray on agitating.
" Sulphate ..	"	" "	Unchanged.
Sodic Chloride......	"	" "	"
Ferric "	No action.	No action.	"
" Pyrophosphate	"	"	"

Of the two following salts, about a drachm of each was rubbed, with an equal bulk of calomel, in a porcelain mortar for fifteen minutes. They were then macerated with a small quantity of water, filtered, and the filtrates acidified.

Filtrate from	Copper.	Hydrosulphuric Acid.
Bismuth Subnitrate..	No action.	Peculiar ppt. Not characteristic of mercury.
Ferric Ferrocyanide..	"	No action.

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The New Coffee Tree.—The botanical garden of Berlin will shortly possess a specimen of the new species of coffee, which has been discovered in Liberia. It is said to be still more aromatic than the best Mocha, and the beans are said to be twice the size.

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* On the reaction between calomel and hydrocyanic acid, see a paper by T. H. Powell and J. Bayne, in *Pharm. Journ. and Trans.*, April 8, 1876. *New Rem.*, v., 139.—ED. N. R.

ON THE ORIGIN OF OUR PHARMACEUTICAL SIGNS FOR WEIGHTS AND MEASURES.

THE signs which we make use of to indicate certain measures and weights are nearly all of very ancient origin, but have in the course of time undergone a good deal of modification, owing to the successive changes in the materials used in writing and sculpturing. The oldest written documents which have come down to us containing such signs are the Egyptian papyri, the most remarkable of which is the Papyros Ebers,* written 1552 before Christ, and containing the oldest medical and pharmaceutical treatise in existence. In later times some of these signs, or at least their equivalents, applied to *monetary* value, occur upon inscriptions on stone, and upon ancient coins, and later, when the Arabs began to translate the medical works of the Greeks, and Latin translations were made of the works of prominent Arabic physicians, and when monastic scholars monopolized the art of writing and calligraphy, the forms of these signs, as well as the shapes of other letters, underwent many, although often only slight modifications. We cannot spare the space to go deeper into the subject than just to give the information desired by our readers; hence we refrain from any further introduction.

Most of the signs in question are simple abbreviations, the first letter of the word being chosen to indicate it. To this class belong

♏ = *minimum*, "the smallest"; a minim.
O = *octarius*,[1] "an eighth part"; a pint.
C = *congius*,[2] "a certain measure (=χοῦς)"; a gallon.
M = *manipulus*, or *manupulus*, "a handful."
P = *pugillus*, "a handful"; in pharmacy "a quantity which can be taken up between three fingers."
SS or S = *semis*,[3] "half."

There is, however, another class of signs, the origin of which is not so self-evident, and is even yet enveloped in some obscurity. We mean the signs for *ounce*, *drachm*, and *scruple*. Since all of these have been in use among the Romans and Greeks, we deem it useful, first to insert a short table showing the division of the Roman and Greek pounds.

ROMAN WEIGHTS.

Siliqua (0.189 grm.) = Greek κεράτιον, keration, "St. John's bread."
3 | Obolus (0.568 grm.).
2 | *Scriptulum* (1.137 grm.) = Greek γράμμα, gramma.
2 | Semisextula (2.274 grm.).
2 | *Sextula* (4.548 grm.).
1½ | Sicilicus (6.822 grm.).
1⅓ | Duella (9.096 grm.).
1½ | Semuncia (13.644 grm.).
2 | *Uncia* (27.288 grm.).
6 | *Semis* (163.73 grm.).
12 | 2 | *As* or *Libra* (327.45 grm.

GREEK WEIGHTS.

Lepton.
7 | Chalkus (0.091 grm.).
8 | Obolus (0.728 grm.).
6 | *Drachma* (4 366 grm.).
8 | *Uncia*, (34.928 grm.).
12½ | *Mina* (436.6 grm.).
60 | Talentum (26.20 kilos.).

It is much easier to give a tabulated view of the Roman than of the Greek weights, owing to the change of value which the latter underwent in the course of time. We know that the old Attic mina, or pound, was equal to 16 Roman ounces, and that later a mina of 12½ Roman ounces existed, so that the former was equal to our avoirdupois pound.

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* An account of this will be found in the *Medical Record*, April 15, 1876.

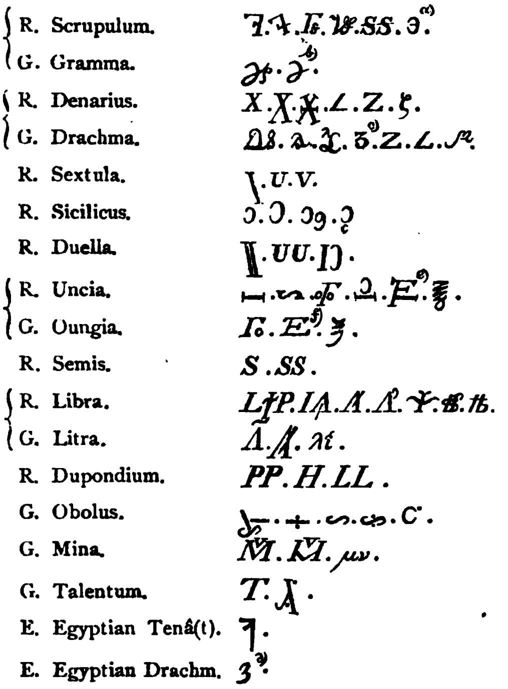
[1] Octarius does not occur in classic writers, but is of later date.

[2] Conchius is the *Greek* κόγχος, another form for κόγχη, *Lat. concha*. *Sansk. çankha*, "the muscle-shell, conch;" then "a drinking vessel," and hence "a certain measure." *Cochlear*, "the spoon," belongs to the same root.

[3] Semis has two etymologies, each with its own meaning. First, it is simply the same as the *Greek* ἥμισυ, or ἡμι, "half." Then it is a later contraction for the two *Latin* words *semi-as*, "half an *as* or pound," for which the short term *semis* was employed. The sign for ½ *as* or ½ pound was either S or SS (the first and last s of semis); and this became so identified with the general notion of "one-half," that it finally was used as a sign for the latter in general.

Cleopatra (*De ponderibus et mensuris*) speaks of the two different minæ, but Dioscorides mentions only 16 ounces in a mina; and though this weight is also mentioned by the Greek physicians, it is not what they prescribed by, but perhaps like our own avoirdupois pound, which is used in trade, while Troy weight is used in compounding prescriptions. At the rate of 16 ounces per mina, the Greek ounce would have exactly the same value as a Roman ounce, namely, 27.28 grm.

The appended table contains the signs employed to denote most of the above given weights. These signs are partly taken from inscriptions, and partly from later manuscripts.[4] The letters G. and R. denote "Greek" and "Roman" respectively.



R. Scrupulum.
G. Gramma.
R. Denarius.
G. Drachma.
R. Sextula.
R. Sicilicus.
R. Duella.
R. Uncia.
G. Oungia.
R. Semis.
R. Libra.
G. Litra.
R. Dupondium.
G. Obolus.
G. Mina.
G. Talentum.
E. Egyptian Tenât(t).
E. Egyptian Drachm.

Scrupulum, the first term of this table, occurs with the variations: scrupulus, scripulus, scriptulus, scriptulum, and scriplum, and is our present word *Scruple*. The last of the signs given for it (*a*), which has been in use for a long period, and which we now employ, derives its origin from the Greek gamma (γ), which is the first letter of the word *gramma*, the Greek equivalent of scruple (compare *a* and *b*).

The next term which we desire to elucidate is the *Drachm*. Among the signs used to denote this we find one in particular (*c*) with which we are familiar. We would, however, be in a dilemma to give a satisfactory account of it, were it not that an unexpected light had been shed on it by the discovery of the above-mentioned Papyros Ebers. In this ancient manuscript, namely, are found a number of recipes, in which the sign represented on the last line of the table (*d*) occurs as a measure (namely, equal to ⅛ tenât), as well as a weight; in the latter case it appears, from various considerations, to be equal to the Greek drachma, or to nearly our present drachm; and the same sign has come down to us, through Greek and Arabian sources, from the ancient Egyptians.[6] A similar sign forms one of the letters of the hieratic alphabet, being an abbreviation of the hieroglyphic "owl," and stands for "*m*."

Although there is no doubt in our mind about the correctness of this derivation of the drachm sign, we nevertheless give another rather artificial interpretation, which we remember having heard from a noted palæographist, and which at the same time accounts for the use of the letters Z and ϛ (*Z*, *z*) as a sign for *drachm*. The Greek Δ (*D*), namely, which is the initial of the word drachmē (ΔΡΑΧΜΗ), is found as a sign for this value both in its complete and in a mutilated form (∠; see cut). From this was constructed the sign for the double drachm or didrachmon (δίδραχμον), by making a monogram of the two truncated Δ's, thus: 7∠ (see *Paucton, Mètrologie*, p. 95). This was finally contracted to simple Z (*Z*), and in current handwriting the small ϛ (*z*) was later substituted for it.

The sign for *Ounce*[7] (℥) is nothing else than the Greek letter ξ (*x*). Its origin admits of two explanations. The Greek fluid-ounce, which was called baphion, or oxybaphion (ὀξυβάφιον, ΟΞΥΒΑΦΙΟΝ), bore a certain relation to the solid ounce (it held nearly two ounces). It was usually denoted by the two first letters, written from the right to the left, thus: Ξο or ξο. Finally the letter ξ (*x*) may have been chosen alone, to denote the solid ounce. A much more probable explanation, however, is this, that the Greek word for ounce: *uggia*, pronounced *ungia* (οὐγγία ΟΥΓΓΙΑ) has itself given rise to the sign. Namely, the two central *g's* of the word have been joined to a sort of monogram, as will be seen by comparing *e* and *f* in the appended table, which bore a great resemblance to the capital Ξ (*X*), in place of which the smaller letter ξ (*x*) was naturally substituted in current handwriting.

In conclusion we may add, that the sign ℞, which is usually interpreted as "Recipe" (take), is nothing else than the old astrological sign ♃, which denotes Jupiter, whose aid and blessing was to be invoked on the prescription.—CH. RICE.

Correction.

WE have a note from Jacob Dunton & Co., of 917 Market St., Philadelphia, calling our attention to the fact that the pill-press mentioned by us on p. 171 of our last number, is covered by a patent (No 174,790) held by Jacob Dunton. The firm above named alone have the right of manufacture.

BIBLIOGRAPHY.

THE AMERICAN LIBRARY JOURNAL. Official Journal of the American Library Association. Managing Editor, MELVIL DEWEY, 1 Tremont Place, Boston. Publisher, F. Leypoldt, 37 Park Row, New York.

THIS is one of the handsomest monthlies on this side of the Atlantic, and since its commencement, in September last, has contained a series of papers relating to books and libraries of the greatest interest. Twenty-one well known librarians, residing in various parts of the United States, are associated with Mr. Dewey in the editing of the work. One of the questions which has received most discussion in its pages is that of coöperative labor in catalogue making—a subject that deeply concerns all students of science, much of whose time is wasted in searching for authorities. The compilation of an index to fill the gap since the publication of the one by Poole, has also absorbed a great deal of attention, and the discussion of the methods offered has been very able. The record of recent issues is very well made, and is more full than the one commonly issued by publishing houses. For persons having a taste for literature the subscription price of $5 per annum is but little compared with the value of the work.

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[4] Paucton, in his *Mètrologie*, 4° Paris, 1780, page 95. gives a number of these signs, taken from the works of *Gruter* (*Inscriptiones latinæ totius orbis Romani*), *Villalpandus, Reinesius*, and *Despon*. See also *Paul. Aegin*. by Fr. Adams, III. p. 626, and the two large works on Greek and Roman Inscriptions (Boeckh's and Mommsen's), published by the Berlin Academy of Sciences.

[5] According to *Rhemmius Fannus, De ponderibus et mensuris* 9, the more ancient term was scripulum, in which case it would belong to scribo, "to write," and denote a coin or token upon which something was inscribed. But all the above terms probably belong to the same root as *scrupus*, of which they are the diminutive form, meaning "a *small*, sharp-pointed stone" (used as a weight).

[6] The *name* Drachma is a purely *Greek* word, being derived from δράττομαι (δράσσω), root δραχ, "to grasp, to take a handful," and no doubt originally denoted a domestic measure, like the *Latin* "*manipulus*" or "*pugillus*," which latter is even interpreted by ancient glossographers with "δρὰξ χειρός, a grasp of the hand," that is, "a handful."

[7] The word ounce is the *Latin uncia*. This is etymologically related to *unica* (namely, *pars*), in the sense of "a unit." This derivation is confirmed by the fact that in the *Paphic* or *Cypriotic* dialect the closely-related term ἴγγια (ingia) is equivalent to the *Greek* εἷς, "one." (See Curtius, Gr. Etym. p. 644. Zehetmayr, Lex. etym. p. 275.) Pollux (Onomast. 4,174) calls it a *Sicilian* weight. The *Greek* terms for uncia are οὐγγία or οὐγκία; according to Photius, also ὀγκία.

Du Sevrage. Conseils a ma Fille, aux jeunes Mères et aux Nourices par Le Docteur L. Michalski. Paris: Delahaye & Co. 1876. 8vo, pp. 47.

"At what period should a child be weaned? How should the child be prepared? Dangers to which infants are peculiarly exposed at the period of weaning. What should be thought of the aliments which are offered for the nourishment of children at the period of weaning? Correspondence of weaning with the phenomena of the primary dentition. Circumstances which may require premature weaning. Is there a choice of seasons for weaning? How should weaning be conducted? Care demanded by the health of the mother after weaning." The above are the titles of the various chapters in the pamphlet.

Wine in the Different Forms of Anæmia and Atonic Gout. By M. E. Bégin. (Translated from the French.) Paris: Baillière. 1877.

[Recommending the tannic wine of Saint-Raphaël.—*Compagnie du Vin de Saint Raphaël* à Valence (Drome).]

A Word in Defence of Sugar-Coated Pills. By J. B. Moore. Reprint from *Amer. Jour. of Pharm.* 8vo, pp. 22.

[Offers a reward of $25 to any chemist, physician, or pharmacist in the United States who will manufacture a pill-coating from the same kind of materials, and in the same proportions, and by the same process usually adopted by our best manufacturers of sugar-coated pills, which will render a sixth-, quarter-, and half-grain morphia pill, or the officinal compound cathartic pill, insoluble and inoperative, and fail of producing their characteristic therapeutic effects, when properly administered, under any physiological conditions of the system, or alimentary canal, in which these same kind of pills *will* display their usual medicinal effects, when freshly made and uncoated.]

Description of an Improved Spray Apparatus. By B. Willis Richardson, F.R.C.S. Reprint from *Dublin Jour. of Med. Sci.* Dublin: Printed for the Author. 1877. [See next number.]

The Specialty of Diseases of Women. By Clifton E. Wing, M.D., of Boston. 1877. Read before the Suffolk District Medical Soc.

[Hopes to see Gynæcology as firmly established as its sister specialty, Ophthalmology, *and its practice reserved for those who are qualified for it.*]

Blue and Red Light; Or, Light and its Rays as Medicine: Showing, etc., etc. By S. Pancoast, M.D. Philadelphia: J. M. Stodart & Co. Crown 8vo, pp. 312.

This is very much like General Pleasanton's book on Blue Light, "only more so." Its author says (p. 232) that he "fully recognizes this sphere of the physician, and, in recognition of the superior authoritative skill of Nature, has sought first, to show the character and qualities of Nature's sole actor, Light, in its dynamical Objective, and supervisory Subjective aspects. He believes, not theoretically, but as the result of thirty years' earnest study, that Light is the Universal Motor; the Source of Vital Dynamics (therefore of Nerve Force); under, and by authority of God, the Author, Sustainer, and Promoter of Life. Believing, nay *knowing*, this, he cannot doubt that Light, when properly understood, will prove the one universal pathological agent—in fact, Light is the Source of the curative properties of medicines, and why should it not prove proportionately potent when its virtues are directly applied to the diseased system?" We give it up, and feel that a man who has given thirty years' study "to the Kabbala and Kabbalistic literature" is "too many for us." When he gets out his big book—which he says he has some thought of doing—he need not throw away his money by sending such conundrums to us.

Proceedings and Reports of the Sanitary Commission of the City of Atlanta, Ga. 1876. Atlanta, Ga. 1877. 8vo, pp. 195.

A very thorough report upon the various methods for drainage and the disposal of the refuse (especially the excreta) of the city. The committee, consisting of Messrs. De Give and Stevens, and Dr. S. Taliaferro, report in favor of the adoption of removal of excreta by means of boxes or barrels transported on carts or wagons. Dr. Rauchenberg makes a minority report in favor of removal by means of sewers, in connection with a water supply. The value of the work is much impaired by the imperfect index.

Second Annual Report of the Inspector and Assayer of Liquors to the Commonwealth of Massachusetts, with Results of the Chemical Analyses of Samples for 1876–77. Boston. 1877.

The report states that 412 samples of liquors from various parts of the State had been analyzed, of which 276 were found to be of good or fair quality, and the balance, or 337, were either very inferior or ordinary quality, or were shown to be more or less adulterated [water is considered as an adulterant]. The report represents rather a better state of things than really exists, since dealers took care to furnish a sample of their best. Beers and wines were also examined, and the report contains very interesting and quite comprehensive papers on "Beers and their Adulterations," "Wines and their Adulterations," and "Distilled Spirits and their Adulterations." All of the nine samples of beers from various brewers, which were examined, were absolutely free from cocculus indicus, picric acid, strychnia, or any other substance than hops and malt.

Report of the State Board of Pharmacy (Rhode Island) made to the General Assembly, 1877.

The association established last winter a course of lectures on Practical Pharmacy, the first series having been delivered by Professor Markoe, of Boston. Fourteen persons were granted registration as Pharmacists, and seven as assistants.

Annual Circular of the Maryland College of Pharmacy. Session of 1877 and 1878. Edwin Eareckson, *Secretary*, Baltimore.

Transactions of the State Medical Society of Arkansas, at its Second Annual Session.

The Association indorse the "Morrison Bill" to abolish the tariff on quinia, and vote to take measures to instruct their Senators and Representatives in Congress accordingly. No papers are published aside from the President's address. *President-elect*, A. N. Carrigan, M.D., Washington, Hempstead Co.; *Secretary*, R. G. Jennings, M.D., Little Rock. The next (3d) meeting will take place on the first Tuesday of May next at Ft. Smith.

Annual Report of the Commissioner of Patents for the year 1876. Washington, Government Printing Office, 1877. Roy. 8vo, pp. 445.

The report shows the magnitude of the business done in this Bureau, and gives two alphabetically arranged lists, one, of the patentees, the other, of articles patented. The total being 959 trade-marks, 402 labels, and 15,595 patents.

On the Diagnosis of Urethral Stricture of Bulbous Bougies. By J. William White, M.D., etc. Reprint from the *Philadelphia Med. Times* of May 26, 1877.

An Address on the Medical Libraries of New York. By Samuel Purple, M.D., President, New York. Printed for the Academy of Medicine, 1877. 8vo, pap., pp. 26.

Reports of the Pennsylvania Hospital for the Insane. By Thomas S. Kirkbride, M.D., of the Vermont Asylum for the Insane, for the two years ending Aug. 1, 1876; of the Trustees of the Willard Asylum for the Insane; of the Resident Physician (D. R. Burrell, M.D.) of Brigham

Hall, a Hospital for the Insane; and of the American Veterinary Hospital, New York.

Announcements of the Kentucky Infirmary for Women and Children, in Louisville; of the Medical College of the Pacific, San Francisco; and of the American Veterinary Hospital.

The Western Review of Science and Industry. Edited by Theodore S. Case, Kansas City, Mo.

We have not space to go into an extended review of this new monthly, but will say that it impresses us favorably, and is *well* worth the price of subscription ($2.50 per annum). The number before us contains a good selection of articles under the headings Archæology, Geographical, Chemical, Astronomy, Natural History, Scientific Miscellany, and Editorial Notes.

Catalogue of Chemical, Pharmaceutical and Physical Apparatus, Instruments and Utensils for Sale at the affixed Prices by W. J. Rohrbeck, late J. F. Luhme & Co., 4 Murray St., N. Y. Also List of Chemicals, Minerals, etc., with Prices.

Chemical and Pharmaceutical Directory of all the Chemicals and Preparations (Compound Drugs) now in General Use in the Drug Trade. Their Names and Synonymes Alphabetically arranged. In three parts. I. English, Latin, and German. II. Latin, German, and English. III. German, Latin, and English. By John Rudolphy. 8vo. Chicago, 1877, pp. 407.

The author, whose smaller pharmaceutical directory is well known, has elaborated the present work chiefly with an eye to chemical and pharmaceutical preparations, rather than to crude drugs; in consequence of this plan such terms as Cinchona, Senna, Acacia are not specially entered, but will be found under the head of their various preparations. Although we do not quite agree with the author in the usefulness of giving a full list of fluid extracts and of all possible tinctures, which could have equally well been indicated by a few examples, we nevertheless must acknowledge that the work is a handy reference for the practical pharmacist.

The terminology and grammar of many terms is, however, not as satisfactory as it might be desired, sharing this defect with most other similar works.

Cyclopædia of the Practice of Medicine. Edited by Dr. H. Von Ziemssen, Professor of Clinical Medicine in Munich, Bavaria. Albert H. Buck, M.D., New York, Editor of the American Edition. New York: Wm. Wood & Co.

Three additional volumes of this valuable work have come to hand since our last notice, viz.: Vol. VI., Vol. VII., and Vol. XII. Their contents are as follows: Vol. VI. (1,014 pages): Diseases of the Circulatory System, together with the chapters on Whooping-Cough, Diseases of the Lips and Cavity ot the Mouth, and Diseases of the Soft Palate. The various sections and authors being as follows: Introduction to Diseases of the Heart, by Prof. Sigmund Rosenstein, of Leyden; Changes in Position of the Heart and Diseases of the Heart and Substance, by Prof. Leopold Schroetter, of Vienna; Congenital Diseases of the Heart, by Prof. Lebert, of Vevay; Diseases of the Arteries, Veins and Lymphatics, by Prof. Heinrich Quincke, of Berne; Diseases of the Pericardium, by Dr. Joseph Bauer, of Munich; Whooping-Cough, by Dr. A. Steffen, of Stettin; Diseases of the Lips and Cavity of the Mouth, by Prof. Alfred Vogel, of Dorpat; and Diseases of the Soft Palate, by Prof. Ernst Wagner, of Leipzig.

Vol. VII. (1,046 pages):—Diseases of the Naso-Pharyngeal Cavity and Pharynx, by Prof. Hermann Wendt, of Leipzig; Diseases of the Stomach and Intestines, by Prof. Wilhelm O. Leube, of Jena; Constrictions, Occlusions, and Displacements of Intestines, by Dr. O. Leichtenstern, of Tübingen; Intestinal Parasites, by Prof. Arnold Heller, of Kiel; Diseases of the Larynx, by Prof. H. von Zeimssen, of Munich, and Spasm of the Glottis, by Dr. A. Steffen, of Stettin.

Vol. XII. (902 pages):—Anæmia, Hyperæmia, Hemorrhage, Thrombosis and Embolism of the Brain, by Prof. H. Nothnagel, of Jena; Tumors of the Brain and its Membranes, by Prof. F. Obernier, of Bonn; Syphilis of the Brain and Nervous System, by Prof. O. Heubner, of Leipzig; Acute and Chronic Inflammations of the Brain and its Membranes, by Prof. G. Huguenin, of Zürich; Hypertrophy and Atrophy of the Brain, by Prof. E. Hitzig, of Zürich.

The reputation which this cyclopædia has attained needs no further comment. It is, without question, the most complete undertaking of the sort in our language, and is particularly strong in its chapters on etiology and pathology. The translations of these three volumes have been made by some of the most able scholars in this country and Great Britain, who are also especially familiar with the subjects undertaken.

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NEW BOOKS.

Foussard (Dr.). De l'empoisonnement par le Nicotine et le Tabac. 8vo. V. A. Delahaye & Cie. Paris. 2 fr.

Lauve (P.). Ce l'emploi de la méthode de Brand et du bain tiède dans le traitement de la Fièvre Typhoïde. 8vo. G. Masson. Paris. 1.50 fr.

Société de pharmacie de Paris. Rapport sur les médicaments nouveaux par une commission composée de MM. Baudrimont, Gobley, Marais, Schaueffel, et A. Petit. 8vo, pp. 68. G. Masson. Paris. 1.25 fr.

Gubler (A.). Leçons de Thérapeutique faites à la Faculté de médecine de Paris. 8vo. V. A. Delahaye & Cie. Paris. 10 fr.

Hoppe-Seyler (F.). Traité d'analyse chimique appliquée à la physiologie et à la pathologie. Traduit de l'allemand, sur la quatrième édition, et annoté par F. Schlagdenhauffen, Prof. à l'école supérior de pharmacie de Nancy. qr. 8vo. pp. 550, avec figures intercalées dans le texte. F. Savy. Paris. 10 fr.

Trousseau & Pidoux. Traité de Thérapeutique et de Matière Médicale. 9th Ed. Revised and enlarged by M. Constantin Paul. 2 vols. Paris. Asselin. 27 fr.

Hecquet. Recherches sur l'emploi de sesquibromure de Fer contre la Spermatorrhée. 12mo. Paris. V. A. Delahaye & Cie. 2 fr.

Atgier. Études hygieniques sur les propriétés organoleptiques des Eaux Potables. 8vo. Paris. V. A. Delahaye & Cie. 1.50 fr.

Annuaire de Thérapeutique, de Matière Médicale, de Pharmacie et d'Hygiène pour 1877. By MM. A. Bouchardat and J. Bouchardat. 37th year. 32mo. Paris. Baillière. 1.50 fr.

Esbach. De l'Analyseur Gazometrique et du Baroscope correcteur à colonne mercurielle; Leur application au dosage de l'urée. 8vo, pp. 20. Paris. 1 fr. [See page 140.]

Hunt (Ezra M., A.M., M.D.). Alcohol as Food and Medicine. 12mo, pp. 137. 60c. Nat. Temp. Soc.

Putnam (J. Pickering). The Metric System of Weights and Measures. 2d Ed. Rev. and enl., with charts. 8vo, pp. 70, 13. $1. Am. Metric Bureau.

Wood (G. B. and H. C.). United States Dispensatory. 14th Ed. Shp. $10. Lippincott.

Hayes (J.). Electro-Thermal Bath. $1.25. Jansen, McC. & Co.

Snivey (J. H.). Tables for Systematic Qualitative Chemical Analysis. $1. Van Nostrand.

Thorne (O.). Structural and Physiological Botany. $2.25. Wiley.

Vacher (A.). Primer of Chemistry. 50c. Lindsay & Blakiston.

Stillé (Alfred, M.D., and Maisch, John). The National Dispensatory. Embracing the Chemistry, Botany, Materia Medica, Pharmacy, Pharmaco-dynamics, and Therapeutics of the Pharmacopœias of the U. S. and Great Britain. Announced by H. C. Lea.

Parsons (Chas., M.D.). Sea Air and Sea Bathing. 12mo, pp. 119. By Lindsay & Blakiston.

Roussel (Dr.). Transfusion of Human Blood. Trans. by C. Guinness. 8vo. Announced by Lindsay & Blakiston.

Hughes (R.). A Manual of Therapeutics, according to the Method of Hahnemann. 2d ed.; mainly rewritten.

Part I., General Diseases: Diseases of the Nervous System. Post 8vo, pp. 280. Turner. 6*s*.

——— On the Sources of the Homeopathic Materia Medica. 8vo. Turner. 2*s*.

Semple (C. E. Armand). Aids to Chemistry. Especially designed for Students preparing for Examinations. Part I., Inorganic: Oxygen to the Metalloids, inclusive. 12mo, sd., pp. 60. Baillière. 1*s*.

Shelly (C. E.). Short Notes on Chemistry. Part I., Metalloids. 2d ed., 8vo., sd. Macmillan. 2*s*.

Tibbits (H.). A Handbook of Medical and Surgical Electricity. 2d ed., rev. and enl., with 95 illustr. 8vo, pp. 260. Churchill. 9*s*.

M'Glashan (D.). Tables of Spirit Proofs. Checked by J. Brown. Fcp. folio, half-bound. Blackwood. 52*s*. 6*d*.

Remsen (I.). Principles of Theoretical Chemistry, with special reference to the Constitution of Chemical Compounds. Post 8vo, pp. 220. Baillière. 6*s*.

Auerbach (G.). Anthracen: Its Constitution, Properties, Manufacture, and Derivatives, including Artificial Alizarin, Anthrapurpurin, etc, with their Application in Dyeing and Printing. Trans. and ed. by Wm. Crookes, F.R.S. 8vo, pp. 250, cloth. Henry C. Baird & Co. $5.

Williams (Dr.). The Influence of Climate in the Prevention and Treatment of Pulmonary Consumption. 8vo. Announced by Lindsay & B.

Peckham (S. F.). Elementary Chemistry. 12mo, pp. 254. Morton.

Auerbach (G.). Anthracen. $5. Baird.

Oehme (F. G.). Therapeutics of Diphtheritis. 2d ed., paper, 60*c*. Boericke & Tafel.

TRADE NOTES.

Two New Mineral Waters.

THE Apollinaris Co., Limited, of London, have recently established an agency in this city for the sale of two newly introduced mineral waters of exceptional excellence, viz.: the water of the Apollinaris Spring, in the valley of the Ahr, near Neuenahr, in Rhenish Prussia, and the Hunyadi János aperient water from Buda-Pesth.

Those who have not yet used the former of these waters should not let the warm season pass without a trial of it, for it is by all means the most agreeable of the alkaline carbonated waters used as beverages. In England, where for four years past it has been rapidly increasing in favor, it is spoken of as the "queen of mineral waters."

In comparing an analysis of the Apollinaris made by Professor Bischof, of Bonn, with that of the Selters Spring, which it most nearly resembles, it will be noticed that the alkaline carbonates are present most largely in the former, while the chloride of sodium is less in proportion than in the Selters. This accounts in part for the "smoothness" which it possesses, and which is a marked characteristic:

	APOLLINARIS. (*Parts per* 10,000.)	SELTERS. (*Grains in one pint.*)
Sodium carbonate.....	12.57	6.778
Magnesium "	4.42	1.516
Calcium "	0.59	1.852
Sodium chloride......	4.66	17.228
Sodium sulphate......	3.00	0.261
Sodium phosphate....	Traces.	Traces.
Potassium salts.......	"	0.289
Iron & aluminum oxide.	0.20	.....
Iron carbonate........	....	0.079
Silicic acid...........	0.08	.....
GAS.		
	Cu. In.	*Cu. In.*
Carbonic acid, free and combined...........	35.83	30.000

These are the most remarkable differences to be distinguished in a comparison of the tables, but in all mineral waters there are peculiarities which cannot be expressed in this way and which can only be understood after actual use. As supplied in bottles the water is strongly effervescent. This is due to the fact that the natural gas is collected at the spring, and, by machinery, is forced into the vessels containing the water, so that it receives a double charge. The amount of gas contained is such that, after using part of the contents the bottle may be corked and laid away upon its side, and 24 hours later will effervesce when again opened. Aside from any medicinal action the water may have, it chiefly excels as a beverage, and, owing to its softness and peculiar flavor, it forms an admirable mixture with liquors and wines, especially with hock and claret. With hot milk it is also said to go well in the morning, and with fruit syrups it excels the ordinary carbonated water. As a medicine its virtues rest principally in its alkaline character, and it is well adapted to render service in some forms of gout and indigestion. The indorsement which the Apollinaris has received in England is unqualified, and we have no doubt that its success on this side of the ocean will be equally great. We certainly have met with nothing comparable to it.

The other water to which we have referred—the HUNYADI JÁNOS—is of quite a different character. In its composition it resembles the Friedrichshalle and Püllna "bitter waters." Nothing can describe better the general character of its contents than the following table:

Proportionate quantities in 7,680 *grains.*

	HUNYADI.	FRIEDRICHSHALLE.	PÜLLNA.
Magnesium sulph.....	137.98	39.55	93.08
Sodium "	128.97	46.51	123.80
Potassium "	1.67	1.52	4.80
Calcium "	....	10.34	2.60
Sodium chloride.....	11.54	61.10	.....
Magnesium "	...	30.25	19.66
Sodium carbonate....	13.20	.....	.....
Magnesium " ...	....	3.99	6.40
Calcium " ...	6.04	0.11	0.77
Carbonic acid, free and half-combined. ...	8.02	5.32	latent.

It differs mainly in its larger quantity of sulphates of sodium and magnesium, and the presence of a considerable quantity of carbonate of sodium.

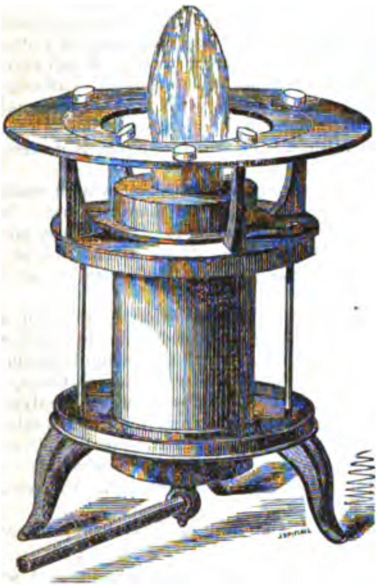
The taste of the Hunyadi János is decidedly the least disagreeable of either of these purgative waters, which is probably owing to the small proportion of chlorides. Magnesium chloride, the salt which is said to render sea water so intensely nauseating, exists in it to a very slight degree, if at all, while sodium chloride is in small proportion compared with the quantity in the Friedrichshalle water. A dose of one-half to one wineglassful is quite sufficient in all but extreme cases, and when warmed either by placing the bottle in warm water, or by adding a little warm water to the quantity taken, it makes one of the pleasantest forms in which Epsom and Glauber's salts can be taken. It has received the indorsement in this country of Drs. James R. Wood, Lewis A. Sayre, B. Fordyce Barker, Wm. A. Hammond, Alfred L. Loomis, and J. Marion Sims, and has a long list of supporters in Europe. Frederick DeBarry & Co., of 41 and 43 Warren St., are the agents for both of these waters in the United States and Canada. See NEW REM., v., p. 104.

Fischer's Filter-Pumps.

ON page 42 of our February number we gave a description and illustration of a new and very compact filter-pump, provided with manometer. We have had one of these in constant use for the last three months, and find it to be so extremely useful and reliable, that we would not do without it at any price. As it is entirely constructed of metal, it is not liable to get broken, like a Bunsen's glass pump, and occupies only a space of a few cubic inches. The manufacturers have since added an improvement to it, namely, a check valve, which prevents the access of the water in the pumps to the exhausted space, on shutting off the pressure. Messrs. McKesson & Robbins, N. Y., will supply them on demand.

An Improved Gas-Stove.

We have long been on the lookout for a really good gas-stove, which would utilize the gas to its full extent, give a pure blue flame without smoke, and therefore furnish the greatest amount of heat obtainable from the supply of gas. We believe we have at last found this in a gas heater made by John Q. Birkey & Co., of Philadelphia (245 South Sixth Street), a cut of which we append, and which gives complete satisfaction. McKesson & Robbins are the N. Y. agents.



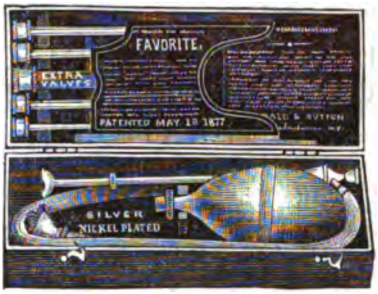
IMPROVED
FOUNTAIN SYRINGE,
Manufactured and for Sale by
THE "EMPIRE" SYRINGE CO.,
No. 44 Cortlandt Street,
NEW-YORK CITY.
WILLIAM PLATT,
General Agent.

The Improved Fountain Syringe,

Manufactured by the Empire Syringe Company, 44 Cortlandt St., of which William Platt is the general agent, has been known to the profession and trade for some time, but has recently undergone some improvements, which entitle it to more favorable notice than it has yet received, and that is already very considerable. First, the ring by which the bag is hung is made of cast metal, and is stronger and larger than before, the small ring at right angles to it being of the same piece. But the chief feature is the pinch-cock for regulating the flow. Heretofore the compression-cock used was liable to cut the tube, and another variety, in which a compression-cock of metal was introduced in the course of the tube, was extremely liable to get out of order and to become stopped by foreign substances. The one now used, and which is a recent invention, obviates all these troubles, and may also be of use as a pinch-cock for other purposes. These syringes are made of good material, and have the advantage of avoiding the necessity for exertion, the force of gravity being sufficient to cause the flow.

Smith & Pitkin's Saccharated Pepsin.

We have received a circular from our friends Dr. Wm. Manlius Smith and Mr. O. C. Pitkin, of Syracuse, N. Y., setting forth the mode of preparation and properties of saccharated pepsin, and appending the testimonials of prominent physicians as to the reliability of the articles manufactured by them. At a meeting of the Onondaga County Medical Society a report was read by Dr. Kendall, of Baldwinsville, giving the results of comparative tests made with 15 samples of saccharated pepsin of the market, among which, that made by Smith & Pitkin was found to dissolve the largest amount of albumen. J. Milhau's Sons, 183 Broadway, are the wholesale agents in this city.



The "Favorite" Syringe.

Macdonald & Sutton, of 299 Broadway, have for sale a syringe which presents certain characteristic and valuable features, viz.: the metal parts are plated with nickel; the suction tube is made of metal, and is long enough to permit fluids to be drawn from deep vessels (such as pitchers); it is supplied with an extra set of valves; it has a larger variety of nozzles than are supplied with most syringes; a sliding lid, in the cover, confines the nozzles in their places, and prevents their rattling when carried; and the case is a nicely polished black walnut box. The price does not differ much from that of other good syringes, and the manufacturers state that they have sold to the trade nearly 11,000 of them in six weeks.

Dr. N. Gerber's Milk Food.

Dr. N. Gerber, of Thun, Switzerland, sent to the International Exhibition of 1876 his new preparation of wheat flour and milk, for which he was awarded a medal. He is now introducing it for use in the United States, through Messrs. Roethlisberger & Gerber, of 144 Chambers St., and sends us a sample. He claims for it that it contains a smaller proportion of starch, and a larger proportion of milk than other articles commonly employed in feeding infants artificially, and submits a number of letters from German, Swiss, and Italian physicians, who have advised its use for both healthy and sick children, with the best results. Dr. Arthur Hill Hassall, of London, and G. B. Schmidt, of Amsterdam, give the following analyses of the preparation:

	Hassall. April 27, 1876.	Schmidt. August 8, 1876.
Hygroscopic water	6.10%	4.30%
Carbo-hydrates (sugar, dextrine and amyline)	75.87%	76.85%
Azotic substances (albuminates	11.58%	13.20%
Greasy matters	4.60%	4.20%
Salifiable "	1.85%	1.20%
	100.00%	99.75%

To which Dr. Hassall adds:

"The azotic substances contain 2.83% nitrogen and the salifiable matters 0.51% phosphoric acid.

"The above results prove this food partly to consist of condensed milk, containing all the elements of complete alimentation, viz.: carbo-hydrates, albuminates, and salifiable matters in such proportions as to make them appear proper for the nourishment of sucklings and babies, and the preparation may therefore be warmly recommended.

"The amount of azotic substances and phosphoric acid is considerable in this food."

The food is put up in tin boxes, with proper label and directions for use, and is in the shape of a fine, dry powder, with a taste not disagreeable.

There is probably no food which will suit all children, unless it be the one nature provides, and we have at times been obliged to make a number of experiments before finding the appropriate one. The food offered by Dr. Gerber claims to be compounded in such a way as to approach, as near as may be, to the natural one, and is therefore worthy of a careful trial.

ANALYSES OF PHARMACEUTICAL CHEMICALS AND PREPARATIONS.

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Eighteen samples were furnished, of which five analyses were reported.

The winner of the July prize is MR. JOHN E. GREGORY, *of Ann Arbor, Mich.* ("TOM, DICK, AND HARRY.")

We are now prepared to send samples for the September prize to such as may desire to compete for it. The substance is pharmacopœial and contains adulterants which may occur in process of manufacture. Answers must be received before the 20th of August, and be accompanied by a sealed envelope containing the name of the writer, and designated by a device or motto, which is also to be placed, instead of the writer's name, upon the report of the analysis.

◆

THE first sample sent for analysis contained dry commercial white lead, and, as an adulterant, nearly twenty per cent. of native sulphate of calcium (gypsum), which contained a trace of iron.

The great importance of white lead as a paint has led to a sharp competition between manufacturers in regard to price, consequently, much that is sold for "strictly pure" white lead is greatly adulterated. Analyses of a large number of samples prove that a majority of them contain either barium sulphate (heavy spar), calcium sulphate (gypsum), or calcium carbonate (chalk). Many white lead paints contain, also, more or less oxide of zinc, but this is not objectionable, as zinc-white paints do not blacken, as do lead paints, by exposure to sulphuretted gases.

The composition of white lead is usually given as PbH_2O_2, $2PbCO_3$, but the conditions of manufacture cause the formula to vary somewhat. For information regarding the methods of manufacture, consult any good text-book on chemistry or an encyclopædia.

The chemical examination of dry white lead is quite simple. It should dissolve easily and completely, with effervescence, in dilute nitric acid. It is well to examine this solution for calcium, after removing all the lead by hydrosulphuric acid. If calcium is found, the paint contains carbonate of calcium (chalk). If the paint does not all dissolve in nitric acid, the residue probably contains sulphate of barium, sulphate of calcium, or silicate of aluminum (white earth). Fuse this residue with carbonate of sodium, on porcelain; pulverize the fused mass and boil it with water. Test this water solution for sulphuric and silicic acids. The residue still remaining may be dissolved in dilute nitric acid and tested for aluminum, calcium, barium, etc.

When sulphate of calcium is the adulterant, boiling it with nitric acid, in presence of nitrate of lead, causes the formation of some *sulphate of lead*, which appears in the insoluble residue. This is because sulphate of lead is less soluble in dilute nitric acid than is sulphate of calcium. This will explain why several of the contestants reported sulphate of lead as an adulterant of the carbonate.

In reporting adulterations it must be borne in mind that an expensive salt is not likely to be added to a cheaper one.

White-lead ground in oils is easily examined for impurities. To a small amount of the paint, in a beaker or evaporating dish, add hydrochloric acid, heat to boiling, and add, from time to time, small fragments of potassium chlorate, until all the oil is decomposed. Expel excess of acid, and fuse the residue with sodium carbonate. Treat with water, and then with acids. Another good way is to fuse a small amount of the paint with sodium carbonate and potassium nitrate. The oil is completely destroyed in this way.

A few words in regard to the best way of making and reporting analyses may not be inappropriate. In the first place be sure that all articles of glassware, etc., are *perfectly clean* before using. Have blank-book or paper, and note color, odor, weight, whether crystalline or amorphous, etc.

Give blowpipe reactions, behavior in open and closed tubes when heated, color of hot and cold beads with borax and microcosmic salt. Next give solubilities, in water and acids. If these fail to dissolve the substance, fuse it on porcelain, with carbonate of sodium, and analyze the fused mass. Next give the group reactions, and special confirmatory reactions, and, if possible, the equations in explanation.

Lastly, state your conclusions as to what the substance is, and whether or not it is adulterated. Be brief, and look out for your *spelling*.

The prize for the best analysis has been awarded to "Tom, Dick, and Harry."

"MONAS."—Your work was correct, and well stated, but you failed to report the calcium sulphate in your conclusions.

"POTTINGAR."—Your proof of aluminum silicate is not sufficient.

"KALOS."—You do not *prove* the presence of barium.

"CICERO."—See the last sentence in the article this month.

"TOM, DICK, AND HARRY."—Try to condense your reports a little. I find no mistakes in work or statements.

NOTES, QUERIES AND ANSWERS.

[*Under this heading we shall, to the best of our ability, endeavor to answer such questions addressed to us as come within the scope of this journal, provided they are accompanied by the name and address of the writer. Answers to queries received after the 5th of the month will lie over until the next issue.*]

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Parchment-Paper for Dialysing (R. W. & Co., Baltimore).—Most of the parchment-paper in this market, and probably all made in this country at the present time, is unsuitable for dialysing, as no special care is taken to select paper free from minute holes. The greatest care must be taken to select paper which shows no perceptible perforations under a magnifying power of at least 80 diameters. If you desire a really good paper for dialysing, we are in the position of recommending to you the *best*, which is made by R. Rube & Co., in Weende, near Göttingen, Germany. See article in August number.

Stove-blacking (G. J., Rockville, Iowa).—An excellent preparation, which has only lately been recommended, is the following: Mix a syrupy solution of silicate of sodium or potassium with lampblack, apply a thin and even coat of this mixture upon the stove, or stove-pipe, and allow it to dry, which requires about 24 hours. Finely powdered graphite is then mixed with thin mucilage, and applied in the same manner; before it has become entirely dry, however, it is brushed in the usual manner, to produce a gloss.

Bleached Olive-Oil (J. McM., Clifton, Wis.).—Watchmakers prefer to use for oiling the delicate works of watches and clocks olive oil, which has been bleached and deprived of its more solid fats. This is obtained by filling bottles half full of good olive oil, adding 92 per cent. alcohol until the bottles are full, and then exposing them for several weeks to the sunlight, under occasional shaking. This causes the oil to lose nearly all its color. The alcoholic solution is then removed, and the oil exposed for a short time in shallow layers to the air, so as to expel the remainder of the alcohol. Prepared in this manner the oil is perfectly bland and free from every trace of acid.

Fumigating Paper (O. F., Jr., Carbondale, Pa.).—Mix in a small mortar 15 grains each of powdered nutmegs, oil of cinnamon, and liquid storax, 10 grains of powdered benzoin, and 5 grains each of musk and ambergris, add drop by drop sufficient alcohol to produce a liquid mass, which is applied by means of a brush upon one side of sheets of fine paper, which are preserved between layers of oil- or wax-paper. For use, a piece of the perfumed paper is held over a flame so as to emit fumes, but *without burning;* it emits a very agreeable odor, and may be used several times.

Pill Coating (Z. M., Whitehall, Mich.).—A hard, white and uniform coat of sugar can be given to pills only by using appropriate apparatus, the essential conditions being to have the pills thoroughly dry, and to keep them in brisk, uniform revolution in an appropriate vessel while baking the coating over a fire. You may get the necessary information from Mr. A. F. W. Neynaber (see advertising pages), whose pamphlet on the subject he will mail to you on receipt of $1.00.

Lemonade (A. T. W., Brandon, Vt.).—We do not remember having printed such a formula as you mention. There is no necessity for giving any special directions, the individual taste being a sufficient guide for its preparation. Citric or phosphoric acids are to be preferred to any other.

Oxymel Scillæ (G. O. H., Yorkville, Ill.).—The misspelled term you ask us about is meant for Oxymel Scillæ, of the Brit. Pharm., the formula for which you will find in the Dispensatory under the heading "Mellita."

Tasteless Tincture of Chloride of Iron (A. S., Harrisburg, Pa.).—You may obtain this from Mr. J. Creuse, 52 Maiden Lane, N. Y., who first originated it. Prof. Jos. P. Remington, of Philadelphia, has also published a formula for its preparation, which is as follows:

Solution of chloride of iron, U. S. Ph.	1 fl. oz.
Citric acid..........................	544 grs.
Sodium carbonate.....................	1000 " or q. s.
Water, distilled.....................	1 fl. oz.
Alcohol..............................	q. s.

Dissolve the citric acid in the distilled water, and heat to the boiling point, gradually adding the sodium carbonate until the acid is saturated. Mix this with the iron solution, which will now assume a beautiful green color, and make up the measure to 4 fl. oz. with alcohol.

Curare (W. H. B., Nashville, Tenn.).—Sir Walter Raleigh was the first who brought to Europe a poisonous substance called "Ourari," which he stated was used by the Indians of Guiana for poisoning their arrow-heads. It is next mentioned in the Travels of the Fathers d'Acunja and d'Artieda, who visited the Amazon River in 1693. According to Silvator Gilii the *ourari*, which is also called *woorara, woorari, wourali,* and *curare,* is prepared from a fruit called "piredo." J. J. Hartsink relates that the natives poison their arrows with the fruit of "cururu or pison," or else with the juice of a tree called "pongoulay." Bancroft, in his "Natural History of Guiana," states that "the poison is derived from a climbing plant called *nibbees* by the Indians; the Accawan Indians prepare it from 6 parts of the woorara root, 2 parts of worracobbacoura bark, and 1 part each of couranabi, baketi, and hatchybaly root. They are scraped, boiled for 15 minutes in water, the liquid separated and evaporated to a thick extract, into which small pieces of cokarito-wood are placed, around which the reddish-brown substance coagulates." Alexander von Humboldt, Waterton, v. Martius, and R. Schomburgk have also described its preparation, but they all differ somewhat, and only the latter has recognized one of the chief ingredients, which he ascertained to be a strychnos, and named *Strychnos toxifera.* There is, however, some doubt as to the correctness of this statement. See also the article on woorari in the Dispensatory (Appendix).

Origin of the Symbols ℥, ʒ, ℈ (K., Barnesville, O., and O. G. M., N. Y.)—The answer to your inquiry will be found at length on page 212.

Liquidambar Styraciflua (D. R. M., Holland, Mich.).—If you desire to extract the useful medicinal constituents from sweet gum bark, and your object is to obtain them in the smallest possible dose, the best plan will be to prepare a fluid extract, which may be made as follows: Take of sweet gum bark, in moderately fine powder, 16 troy ounces, alcohol 90 per cent., q. s. Moisten the powder with alcohol, pack it into a conical percolator, and pour 2 pints of alcohol upon it. As soon as the liquid begins to drop from the neck of the percolator, close it with a cork, and let it stand for a few days. Then remove the cork, and collect 14 fl. oz. of percolate, which set aside. Continue the percolation until the bark is exhausted, concentrate this second portion to 2 fl. oz., and add the latter to the reserved portion. Filter, if necessary. One minim represents one grain of the bark.

Red Color for Fruit Syrups (T. L., Perryville, Mo.).—A harmless red coloring matter for fruit syrups of an acid reaction is best obtained from poke-berries, the fruit of *Phytolacca decandra.* The berries should be as fresh as possible, or if dried, should not be too much shrivelled. They are crushed in water, alcohol is added, the liquid portion filtered off, and the filtrate, which has a dark bluish-red tint, is mixed with a *yellow* coloring matter (best, solution of turmeric), until a diluted sample has a pure red color. The yellow, namely, converts the blue portion of the coloring matter into *green;* and the latter color is extinguished by the presence of *red*, which is in excess.

White or Purified Gutta Percha (A——, Baltimore, Md.).—Pure gutta percha, suitable for teeth filling, can be had of S. S. White, of Chestnut Street, corner Twelfth, Philadelphia, or 767 Broadway, N. Y.

Bisulphite of Lime (J. Sherbrooke, P. Q.).—Your inquiry, in which you desire a formula for preparing "bisulph. of lime," has been interpreted by us to refer to the bisulphite. Presuming this to be correct, the simplest way will be to suspend 10 parts of chalk (calcium carbonate) in 100 parts of water, to pass a current of sulphurous acid gas through the mixture, and when the solution is saturated with the gas, and strongly smells of it, to cautiously evaporate it until it separates in small crystals. It is, however, preferable to keep it in solution, as the evaporation of the latter is liable to convert it into a simple sulphite (calcium sulphite, $CaSO_3$). If you desire to make this on the large scale, you will have to adopt a more economical process for making sulphurous acid than the usual one of generating it in a flask or retort from charcoal and sulphuric acid.

Hydrobromic Acid Cough Mixture.—B. C. A., of Watertown, Conn., asks the dose of hydrobromic acid cough mixture, formula for which is given on page 30. The total quantity named may be taken.

Improved Eye-Glasses.—We have a number of queries relating to the eye-glasses mentioned by us on page 119 of the April number, and refer our correspondents to the inventor, Mr. Frank P. Innarone, of Washington, D. C., who is now prepared to respond to queries regarding them.

Proposed Medical Department of Cornell University.—At the recent annual meeting of the Trustees of Cornell University, a proposition to establish a medical department of the university in New York City was referred to the Executive Committee.

The Harvard Summer Schools of Botany and Chemistry have twenty female students in attendance.

NEW PATENTS AND LAWS.

[*We will furnish gratis, to subscribers, any information relating to new patents which can be obtained from the Official Gazette of the Patent Office; and for 50c. will give copies of the drawings of such as are illustrated. Electrotypes of the illustrations contained in* NEW REMEDIES *will be furnished for 50c. per square inch.*

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TRADE-MARKS REGISTERED IN U. S. PATENT OFFICE.

May 8th.

Mineral Waters.

4,619. Saratoga Vichy Spring Co., Saratoga Springs, N. Y. A monogram composed of the letters "V. S." and the words "The Saratoga."

Miscellaneous.

1,616. Wm. L. Teter, Philadelphia, Pa., assignor to James H. Platt, Jr., Va., and Chas. P. Ramsdell, Petersburg, Va. "A red color applied to Lamp-oil."

May 15th.

Medical Compounds.

4,633. Catharine Sawyer, Rockland, Me. The words "Miss Sawyer."

4,640. Zuricalday & Arguimbau, New York, N. Y. (Liquorice Paste). "A horizontially elongated diamond, with a ball or circle on the right angle, and another ball or circle on the left angle thereof. The word 'Pilar' is inserted in the diamond, the letter 'Z' in the left ball or circle, and the letter 'A' in the right ball or circle."

4,642. Geo. C. Barclay, Brooklyn, N. Y. The figure of a North American Indian, used in connection with the words "Barry's Pain Relief."

4,643. Isabella Dunlop and Ellen M. Doubleday, Brooklyn, N. Y. The word-symbol "Daisy," used in connection with the word "Cream." (Specific for Skin-diseases.)

4,653. George Pierce & Co., Boston, Mass. The name "Dr. Geo. Pierce's," and the portrait of the late Dr. Geo. Pierce, used in connection with the words "Indian Restorative Bitters."

4,655. Trommer Extract of Malt Company, Fremont, Ohio. "The words 'Improved Trommer's.' The figure of Ceres inclosed in the wreath of barley, and the Latin words 'Ceres ubere pleno nutrit fovetque infantes.'"

Miscellaneous.

4,628. Frederick Hoffmann, Jersey City Heights, N. J. "The designation 'Littlewood & Co.'s,' and the figure of a crown; the former in a red field or stripe above the crown." [Washing-crystal.]

4,629. The Same. The designation "Hoffmann & Co.'s." The balance as above.

4,649. Howard & Brewster, Unadilla and New York, N.Y. "The words 'Howard's Magnetic,' used in connection with the words 'Shaving-soap.'"

4,652. Macdonald & Sutton, New York, N.Y. "The word-symbol 'Favorite.'" [Rubber syringes. See "Trade-Notes."]

May 22d.

Medical Preparations.

4,662. Edmund J. Bramhall, Jersey City, N. J. "The female figure used in connection with words 'Dr. Harris' Corn and Bunion Cure.'"

4,663. Dr. A. W. Chase, Son & Co., Toledo, Ohio. A druggist's mortar and pestle, and the letter "C" ornamented with foliated work.

4,668. Augustus Kiefer, Indianapolis, Ind. "The monogram 'J. H. B.,' used in connection with the words 'Expectorant Syrup.'"

4,679. John F. Oates & Co., Providence, R.I. "The word-symbol 'Corsican Butter,' used in connection with the words 'for the piles.'"

Miscellaneous.

4,675. Emile Meyer & Co., Paris, France. "The representation of a basket of flowers, and the words 'a la corbeille fleurie' placed on the inside of a ring or circle, and the words 'Ed. Pinaud, Paris,' placed in a space formed between this inner and an outer ring or circle."

4,683. William & Patrick Thompson, New York, N. Y., and Dublin, Ireland. "The word-symbol 'Prune-Wine.'"

May 29th.

Medicinal Preparations.

4,685. Silas E. Ashley, New Bedford, Mass. The initials "S. E. A."

4,690. William M. Giles & Co., New York, N. Y. The representation of the griffin, used in connection with the words "Giles' Iodide of Ammonia Liniment."

Soaps.

4,689. Joseph Biechele, Canton, Ohio. The letters "A B C."

4,692. Chas. F. Kopitzsoh & Son, Pottsville., Pa. The letters "C. F. K. & Son," arranged as a monogram.

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LABELS.

May 15th.

1,057. "The K. Imperial Viennese Purgative Blood Purifying Specifics," Caroline Biedenfeld, New York, N. Y.

1,058. "For the Hair." Anna Connelly, New York, N. Y.

1,059. "Notice," Dundas Dick, New York, N Y.

1,060. "Chemical Spirit Gas." C. E. Flagg, Cleveland, Ohio.

1,062. "King's Good Samaritan Cough Syrup." Geo. W. King, Wilmington, Del.

1,063. "Sweet Cathartin." Herman Schroeder, Quincy, Ill.

May 22d.

1,065. "Steele's Pain Eradicator." Cram & Brigham, San Francisco, Cal.

1,066. "Fairbrother's Venetian Ointment and Emolient Salve." Helen F. Fairbrother, New Bedford, Mass.

1,067. "Camphorated Tar Paper." Robert Lautenback, Baltimore, Md.

1,068. "Wyeth's Dialysed Iron." John Wyeth & Brother, Philadelphia, Pa.

1,069. "Physician's Sample, Wyeth's Dialysed Iron." The same.

1,071. "Mead's Infallible Pile Cure." Henry Moore, Orange, N. J.

1,072. "Wright's Cod-Liver Oil and Cream of Tar." Thos. D. Toy & Co., Norfolk, Va.

May 29th.

1,073. "Collar & Matthew's $1.00 Catarrh Cure." Alexander Collar and Henry J. Matthews, Wayne, Mich.

1,074. "Dr. Limerick's Hog-Cholera Cure and Preventive." Marshall, Lamar & Co., Aurora, Ind.

1,076. "Schermerhorn's Tonic Extract of Wine." George W. Schermerhorn, Philadelphia, Pa.

1,078. "Wright's Improved American Antipest." Geo. S. Wright, Racine, Wis.

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PATENTS.

May 8th.

Anti-incrustation compound, E. L. Hurd	190,436
Beer-measures, J. McInnes	190,609
Brass-cleaning and polishing compound, W. H. Bertram	190,407
Can-opener, L. Cutting	190,566
Decanters, etc., stopper, lock for, E. H. Guild	190,579

Dental engine, C. M. Curtis (re-issue)	7,670
Drawer-pull, G. W. Tucker	190,527
Eggs, desiccating, W. O. Stoddard	190,640
Exercising-machine, A. W. Lozier	190,503
Food-composition, J. T. Cragin	190,472
Gas, process and apparatus for generating and purifying, M. W. Kidder	190,498
Hydrocarbon-oil, to water under pressure, apparatus for supplying, W. Major	190,603
Labels, attaching, C. L. Pond	190,446
Lactometer, L. Heusner	190,587
Leather-staining compound, G. S. Wolff	190,660
Liquid-meters, N. M. Simonds	190,631
Mineral-waters, artificial production of, C. Beyschlag. [See p. 204]	190,464
Oils, apparatus and process for the separation and treatment of, H. Frasch	190,483
Preserving animal and vegetable substances, composition for, G. Henry (re-issue)	7,672
Preserving fruit, Bürst & D'Autrey	190,415
Seidlitz-powders, machine for putting up, C. A. Doane	190,564
Spectacles, temples and joints, manufacture of, P. C. Winans	190,659
Spectacles, C. Yocco	190,530
Water-filters, Fleming & Burns	190,569

May 15th.

Bone-black revivifier, J. Gandolfo	190,676
Bottles and jars, composition seal for, C. M. Jacob	190,865
Bung and bush, combined, E. Rodier	190,905
Corkscrew, M. L. Crannell	190,669
Dental chair, J. B. Morrison (re-issue)	7,687
Eggs, apparatus for desiccating, Stoddard & Flint.	190,927
Electric lights, carbon for, P. Jablochkoff	190,864
Gas furnace, regenerative, C. W. Siemens	190,915
Gas holder, W. & R. H. Smith	190,918
Gas retort lids, fastening for, N. Jamin	190,867
Hop extract composition, J. R. Whiting	190,801
Incrustation, composition for removing, H. H. Kreamer	190,770
Insect destroyer, C. H. Emerson	190,838
Jar cover, hermetically closing, T. A. Weber	190,940
Liquid diffuser, G. M. Smyth	190,789
Liquid, conveyance of, G. M. Remsen	190,902
Lozenge machine, C. H. Hall	190,754
Malt extract from the husks or refuse brewers' mash, apparatus for separating, H. R. Randall	190,899
Malt extract, process manufacturing, H. R. Randall	7,688
Paint, W. P. Jenney	190,761
Refrigerator, S. Gasper	190,846
Refrigerators, ice floor for, P. J. Stuart	190,928
Scales spring, G. H. Chinnock	190,824
Sealing-wax or rosins for use, the same being in drop or disk form of, C. F. Herman	190,681
Sheet metal can, H. Miller (re-issue)	7,682
Sludge and sludge oil, process of treating, W. P. Jenney	190,762
Soap boiler, J. M. Jackman	190,866
Teething-nipple, C. H. Rogers	190,908
Vegetable slicer, J. Kuchinka	190,871

May 22d.

Aluminic sulphate and alum, manufacturing, C. Lennig	191,160
Bees-wax, bleaching, H. T. Yaryan	190,995
Bottle opener, E. Bacher	191,093
Bung cutting machine, P. Medart	191,066
Can opener, R. H. Rose	191,075
Clams, preparing and preserving, H. W. Buttles	191,034
Distillation and apparatus therefor, continuous, S. Van Syckel	191,203
Explosive compound, O. Bürstenbender	190,954
Eye-glass, F. P. Innarone	191,149
Faucet, self-closing, H. C. Meyer (re-issue)	7,694
Filtering apparatus, J. Gainey	191,131
Fluid meter, C. M. Van Tine	191,205
Furnace, metallurgic, W. M. Watson	191,209
Gas, manufacture of, M. H. Strong	191,082
Glue, manufacturing, C. O. Garrison	191,132
Infusions, apparatus for making, R. U. Etzensberger	190,964
Oil-still, S. Van Syckel	191,204
Paint composition, C. Brown	190,953
Refrigerators, lining for, G. H. Levis	190,973
Respiratory brace, G. H. French	191,042
Sugar liquor rising with the steam from vacuum pans, apparatus for collecting and saving particles of, F. O. Matthiessen	191,163
Syringe case, B. T. Sutton. [See p. 172]	191,083

May 29th.

Adhesive compositions, A. C. Fox	191,420
Atomizer, J. J. Essex (re-issue)	7,705
Barrel-washer, A. Zoller	191,506
Bisulphide of carbon as a motive power, utilizing, Fell & Bunster	191,327
Bottle closing device, W. H. Hicks	191,283
Bottle stopper fastener, J. H. Parkhurst	191,251
Cement for steam joints, S. Otley	191,249
Deodorizing, disinfecting, and fertilizing compound, H. Seligman	191,476
Fire extinguishing compound, F. Budy	191,306
Glue composition, J. H. Craig (re-issue)	7,714
Horse-power, J. & H. Kolling	191,442
Ice, manufacture of, C. L. Ricker	191,256
Insect destroyer, J. C. Melcher	191,360
Lubricating compound, G. W. Sweeney	191,488
Lubricating compound, P. Sweeney	191,490
Lubricating compound, P. Sweeney	191,491
Mucilage bottles, stoppers for, J. Tilghman	191,386
Oil-still, J. T. Coleman	191,406
Pneumo-electric bath, Huffman & Huff	191,432
Preserving wood and other vegetable matter, Rogé, Poret, Baffoy & Dupré	191,257
Pyrometer, E. Brown (re-issue)	7,702
Stopper attachment, B. Arnold	191,295
Syringes, tube holder for, M. Mattson	191,357
Truck barrel, E. E. Blinn	191,222
Vegetable slicer, T. Schmidt	191,375
Vegetable slicer and grater, J. P. Dunwald	191,322
Window glass, ornamented, R. M. Tudor	191,270

PRESCRIPTIONS AND FORMULÆ.

Standard Formulæ for Certain New Preparations.

(Continued from page 188.)

1. *Pilocarpine.* Exhaust the leaves or bark of jaborandi with 80% alcohol, to which 0.8% of hydrochloric acid has been added. Distill off the alcohol and concentrate the remainder to a syrupy consistence. Redissolve this in a small quantity of distilled water, and filter. Treat the filtrate with ammonia in slight excess, and shake it with a large quantity of chloroform. Remove the chloroform, distill it off and dissolve the residue in water acidulated with hydrochloric acid; then filter, and repeat the treatment with ammonia and chloroform. The chloroformic solution is shaken with water to which drop by drop sufficient hydrochloric acid is added, to saturate the pilocarpine. Foreign substances remain in the chloroform, and by evaporating the aqueous solution, a well-crystallized hydrochlorate of pilocarpine is obtained in long needles grouped around a centre.

On dissolving this salt in water, treating the solution with ammonia, and shaking with chloroform, the pure alkaloid is obtained on evaporating the latter. It appears as a soft viscous mass, little soluble in water, very soluble in alcohol, ether, and chloroform.

It has all the chemical characteristics of an alkaloid, and strongly deviates polarized light to the right.

Note: The medicinally active parts of *Pilocarpus pinnatifolius* (or pennatifolius, pinnatus), or jaborandi, are the leaves and bark. They contain, besides pilocarpine, an essential oil which is mainly composed of a hydrocarbon, and some other as yet unstudied constituents.

2. *Benzoate of Lithium* ($LiC_7H_5O_2,H_2O = 146$).

Benzoic acid	122 parts.
Lithium carbonate	37 "

Mix the benzoic acid with 10 parts of water, add the lithium carbonate, and heat. The latter dissolves under effervescence, and by evaporation the salt is obtained in handsome, flattened, and elongated prisms. It is very soluble in water. One gramme of this salt ignited, moistened with sulphuric acid, and ignited again, should yield 0.376 gm. of lithium sulphate.

3. *Bromide of Lithium* ($LiBr = 87$).

Bromine	80 parts.
Iron, in filings	q. s.
Distilled water	300 parts.
Lithium carbonate	30 "

Prepare the bromide of iron as previously directed (see above, page 188), filter, and add to the still warm liquid the lithium carbonate. Towards the end of the operation apply a gentle heat. The liquid must have a faint alkaline reaction. Remove the precipitated carbonate of iron by filtration, wash the precipitate with distilled water, add the washings to the filtrate and evaporate the latter, and pour it out so as to form solid pieces, which must immediately be transferred to well-dried, glass-stoppered vials.

One gramme of lithium bromide is entirely precipitated by 1.95 gm. of silver nitrate.

4. *Effervescent Carbonate of Lithium; Effervescent Citrate of Lithium; Effervescent Citrate of Iron; Effervescent Tartrate of Iron and Potassium, etc.*

Citric acid	40 parts.
Sodium bicarbonate	50 "
Lithium carbonate (or lithium citrate, etc.)	10 "

Mix the substances in powder, place them into a flat-bottomed, wide dish, and heat them to about 100° C., under constant stirring, until the powder has assumed a granular form. Then by means of appropriate sieves separate those granules which are of uniform size and preserve them in well-closed bottles.

5. *Citrate of Lithium* ($Li_3C_6H_5O_7,2H_2O = 246$).

Citric acid	186 parts.
Lithium carbonate	100 "

Dissolve the citric acid in six times its weight of boiling water, saturate it with the carbonate of lithium, and evaporate the solution at a gentle heat. The salt is obtained in handsome prismatic crystals, containing 2 molecules of water. Dried at 100° C. they retain one molecule, and at 115° C. the salt is obtained anhydrous. Lithium citrate is soluble in 25 parts of cold water.

One gramme of the salt ignited, moistened with sulphuric acid, and ignited again yields 0.223 gm. of lithium sulphate.

6. *Iodide of Lithium* ($LI = 134$).

Iodine	127 parts.
Iron, in filings	35 "
Lithium carbonate	38 "
Distilled water	300 "

Prepare a solution of iodide of iron, using the whole of the distilled water, filter, add the carbonate of lithium to the still warm liquid, and heat gently to promote complete decomposition. The liquid must be slightly alkaline. Filter, wash the precipitated carbonate of iron, add the washings to the filtrate, evaporate the latter, pour it out to cool and harden, and immediately transfer it into well-dried, glass-stoppered vials.

It forms a white salt very soluble in water and alcohol.

One gramme of it is entirely precipitated by 1 27 gm. of silver nitrate.

7. *Lactate of Magnesium* ($Mg2C_3H_5O_3,3H_2O = 256$).

Lactic acid	q. s.
Magnesium carbonate	q. s.

Dilute the acid with 10 parts of boiling water, and saturate it with the carbonate. Filter and evaporate the solution at a gentle heat. The salt is obtained in white, flat prisms; it is soluble in about 20 parts of cold water, much more soluble in hot water, and insoluble in alcohol.

8. *Sulphite of Magnesium* ($MgSO_3,3H_2O = 160$).

This salt may be obtained by double decomposition between magnesium sulphate and neutral sodium sulphite; but it is preferable to prepare it by passing a current of sulphurous acid gas through water holding magnesium carbonate in suspension. As soon as effervescence ceases, and the solution after brisk agitation retains the odor of sulphurous acid, the current of gas is interrupted, the liquid is separated by filtration from the precipitate, the latter is washed with a little water, pressed and dried at a very gentle heat. It must be preserved out of contact of air.

It is a white salt soluble in 20 parts of water. It dissolves more readily in a solution of sulphurous acid, which deposits it on evaporation in transparent, prismatic crystals. Exposed to the air it rapidly absorbs oxygen.

100 c.c. of a solution containing 0.79 gm. of magnesium sulphite per litre, mixed with a little starch-paste, absorb 10 c.c. of a solution of iodine containing 12 7 gm. per litre before a permanent blue iodide of starch is produced.

9. *Extract of Malt.*

Malted barley, dried at 50° C. .... q. s.

Malted barley, of which the sprouts have attained three-fourths of the length of the seed, is ground in a mill, then treated with 2 parts of water at ordinary temperatures, with occasional agitation, and straining and pressing off the liquid after 5 or 6 hours. This is filtered and evaporated in shallow vessels at a temperature not exceeding 45° C.

Syrupus Chloralis.

Chloral	8.0 gm.
Dissolve in distilled water	12.0 "
Add simple syrup	150.0 "
Ol. Menthæ crisp. (or pip.)	gtt. 1

Anatherin Mundwasser (Aromatic Gargle).

Tinct. myrrhæ	160.0 gm.
" catechu	80.0 "
" guaiaci	40.0 "
" krameriæ	40.0 "
" caryophylli	30.0 "
Spir. cochleariæ	20.0 "
Ol. cinnamomi	20 gtt.
" rosæ	1 gtt.
Alcohol dil	630.0 gm.

Both of the above formulæ are directed to be used, by the Dutch Government, whenever apothecaries are called upon to dispense them without special instructions.

Liniment of Iodide of Ammonium (Th. G. Davis).

Water of ammonia (10%)	2 fl.oz.
Glycerine or soap liniment	2 "
Tincture of iodine	8 "
Alcohol	4 " or q.s.

Mix the soap liniment (or glycerine) with the tincture of iodine, and add the alcohol and ammonia; shake and add alcohol to make one pint. When first mixed it is of a ruby red color, but in two or three days it becomes colorless, affording a clean preparation. It contains iodine and iodate of ammonium.

To Allay Itching (Bulkley).

℞. Pulv. camphoræ,
Chloral hydrat .... āā ʒ j.
Ung. aquæ rosæ .... ℥ j. M.

The chloral and camphor are to be carefully rubbed together till a fluid results, and then the ointment is to be added slowly and well mixed. It does not answer when the skin is at all broken; the burning sensation caused on its first application lasts but a few moments, while the relief lasts for hours.

Oil of Turpentine in Sciatica.

A writer in the *Edinburgh Med. Jour.* recommends the following prescription in sciatica:

℞. Olei terebinthinæ.................. ʒ ij.
Olei ricini.......................... ʒ iv.
Mucilaginis .... ʒ iv.
Aquæ..............................ad ℥ ij. M.

The whole to be taken early in the morning. Several cases are given in detail, in which, after two or three trials of the remedy, the pain subsided.

Lotions for Urticaria.

Prof. Hardy, of Paris, recommends the following lotions o be applied several times daily:

℞. Chloroformi............... .. 10 parts.
Olei amygdal. dulc.............30 " M.

In bstinate cases he gives:

. Hydrarg. chlor. corros.....1/10 to 1/4 parts.
Alcoholis.................. 10 "
Aq. destill................ 90 " M.

He also gives internally alkaline medicines, and, if necessary, arsenic.

Chloral Hydrate is said to be growing in favor as a local anæsthetic and stimulant in cancerous and other painful ulcers. The solution may vary from twenty grains to a drachm, to the ounce.

ITEMS.

American Pharmaceutical Association.—The Local Secretary, Mr. Henry J. Rose, gives the information that the meeting will be held in the City Council Chamber, which the Mayor of Toronto has kindly placed at the disposal of the Local Committee. It is desired that suitable goods from the United States be sent for the exhibition of pharmaceutical objects, to be held at the same time. Application has been made to the Secretary of the Treasury, and his official reply states "that the law (section 2505 R. S.) admits to free entry articles, *the growth, produce, or manufacture of the United States* when returned in the same condition as exported, and when their identity is established by proof prescribed by the Secretary of the Treasury." It is hoped that many will avail themselves of this provision, and exhibit goods of the above description, in addition to those which may be shown by our Canadian friends. Goods from the United States, for the above purpose, will enter Canada in bond. The permanent Secretary expects soon to be in possession of the necessary details for facilitating the exportation and reimportation of these goods, and will communicate them by circular to all who may desire to exhibit. It is desirable that application for space be made to the Local Secretary, Mr. Henry J. Rose, Toronto, *as early as possible*, before August 15th.

We are also informed that the Grand Trunk Railway will issue round-trip tickets from any station on their line to Toronto, and return at one and one-third (1⅓) fare. For many members Niagara Falls will be the natural place of rendezvous on Saturday and Sunday preceding the meeting. Some members have expressed a desire to return by way of Montreal, Lake Champlain, and Saratoga, others by way of Montreal and Boston. Those returning by way of Niagara can obtain tickets between that place and Toronto, by boat across Lake Ontario, at $3.00 for the round trip. Other arrangements are contemplated, and due notice will be given. Any suggestions in regard to the trip will be gladly received by the Secretary, who requests all candidates for membership to mail their applications to him or to the Chairman of the Executive Committee at as early a date as possible.

The Convention of Teaching Colleges will hold their first meeting on the morning preceding the first session, that is, on Tuesday, September 4th, in the forenoon.

College of Pharmacy of the City of New York.—At a meeting of the college held on Thursday, June 21st, a special committee "On Legislation," to whom had been assigned the task of bringing before the Assembly Committee on Health the objection to the proposed law for the regulation of the weights and measures of pharmacists, made their report, in which they announced the success of their efforts, and which contained the following important proposition:

"But the chief plea put in by your delegation, against the passage of the proposed law, having been the admission of the necessity of aiming at a greater accuracy and uniformity of the weights used by pharmacists for compounding medicines, and the promise that the college would take the matter into its charge, and try to accomplish by persuasion what the law was to accomplish by force: it now becomes the urgent duty of the college to take such measures as will best secure the objects aimed at in the proposed law. And your committee would respectfully urge that action be taken in this matter without delay."

After a lengthy and full discussion of all the points bearing on this question, the following resolutions were unanimously adopted:

"*Resolved*, That the Board of Trustees be authorized and empowered to procure for the college two balances for large and small weights, and one set each of standard Troy and Metric weights, for the purpose of giving to the pharmacists of the city of New York the opportunity to have their weights and measures compared with the standards, and verified.

"*Resolved*, That the Board of Trustees notify the Board of Pharmacy, as soon as they have secured the necessary balances and weights, and that the latter Board be requested to issue a call to all the pharmacists of the city and county of New York, to have their balances and weights compared with the standards, and, if found correct, to receive a certificate to this effect, for which a small compensation shall be charged."

Homœopathy in England.—"An exceedingly interesting correspondence on the subject of homœopathy is published in *The Lancet*. It shows a very different aspect of the matter in England from anything here. Dr. George Wyld is the Vice-President of the British Homœopathic Society. On the part of himself and associates he makes overtures asking whether there is no ground for reconciliation between the older school of medicine and his own. He says that British homœopathists have discarded their globules and infinitesimals, and give doses of tangible strength, sufficiently large to effect the object. They admit that Hahnemann's views were often extravagant and incorrect; they will accept the dictum of Hippocrates that some diseases are to be cured by similars, and some by contraries, and, "therefore," adds the Doctor, "it is unwise and incorrect to assume the title of homœopathist." *The Lancet* does not receive the overture in a liberal spirit, but assumes an air of arrogance, and lays down the rule that British physicians can only receive homœopathists into the fold upon a full renunciation of their errors, and a complete acceptance of the ancient doctrine. This scant courtesy on the part of the regular practitioners will chill any tendency to similar concessions among homœopathists elsewhere."

Recent Progress in Pharmacy.—At a special meeting of the Norfolk District Medical Society, Prof. Geo. F. H. Markoe exhibited the following objects, prefacing his remarks by saying that the general drift of recent improvements in pharmacy tends towards the production of improved apparatus, by means of which the pharmacist is now enabled to make for himself—and that, too, without any very expensive outlay—nearly all the officinal preparations in common use: (1.) A set of improved American graduates, the graduation upon which consists of rings entirely encircling the glass, which was shown to be a decided improvement upon the former mode of marking upon one side only. The best form of English graduates are, indeed, marked upon opposite sides; but with these inaccuracy is not unfrequently occasioned by the mark upon the reverse side not corresponding with that upon the front. With the improved circular marking, however, accuracy in dispensing is rendered simple and sure, provided ordinary care is taken by the pharmacist.

(2.) A Japanese quart tea-pot, capable of being employed as a still for the recovery of alcohol from fluid extracts in the preparation of spirits, which can be heated by either the water- or the sand-bath, the peculiar character of the ware rendering it but little liable to break, even when heat is directly applied.

(3.) An improved copper water-bath, in which the concentric rings were locked together, thus effectually preventing the slipping of the rings, which is so annoying in the common form of water-bath. The rings adapted the apparatus for use with evaporating dishes of flasks of from one ounce to thirty-two ounces.

(4.) A modification of the well-known Liebig's condenser, devised by Hoffman, of Berlin. It was shown to be exceedingly suitable for condensing distillates upon a small scale, having the merit of being very easily cleaned after use.

(5.) A new form of Bunsen burner, only two inches high, but having all the power of the ordinary form of a burner which stands six inches high, and so constructed that the flame does not recede when the gas is turned low.

(6.) A new form of gas tubing, not liable to retain and emit the disagreeable odor of gas, as does the ordinary rubber hose.

(7.) Sulpho-carbolate of sodium. This article was shown in several stages of manufacture, from the crude, dark-colored state, as obtained by first crystallization, to the white, perfectly pure salt. Prof. Markoe gave an account of the sulpho-carbolates as a class of salts, their mode of manufacture, and their properties, noting especially the calcium, sodium, and zinc sulpho-carbolates at present employed in medicine. Attention was called to the fact that the sulpho-carbolates, when pure, do not smell of carbolic acid, and if this odor be present it constitutes the strongest evidence of insufficient purification.—*Boston Med. and Surg. Jour.*

M. Baudrimont has been appointed director of the *Pharmacie Centrale*, of Paris, replacing M. Regnault, who has retired.

John W. Langley has been appointed Professor of General Chemistry and Physics in the Michigan University, and at its last commencement the degree of Doctor of Medicine was conferred on him.

J. B. Caventou, one of the most illustrious chemists of the present century, died recently in Paris, at the age of 82. To him the world is indebted for some of the most important alkaloids in use. He was the first to isolate quinia, veratria, and strychnia, as well as a large number of others. It was he also who first demonstrated the existence of chlorophyll in plants.

He entered the Academy of Medicine at the age of 27.

For 32 years he held the Chair of Toxicology at the School of Pharmacy, in Paris, which he resigned in 1858, despite the urgent entreaties of all his colleagues and pupils to remain.

Dr. Alexander Braun, Professor of Botany at the University of Berlin, died on March 29th. He was born on May 10, 1805, and was well known as an authority on his science.

L'Union Scientifique des Pharmaciens de France, a society formed by the druggists of France for the purpose of scientific investigation, held its first meeting last month in Paris.

M. Bussy, ex-director of the School of Pharmacy, of Paris, was chosen honorary president, and M. Planchon, director of the School of Pharmacy of Montpellier, active president.

Pharmaceutical Exhibition in Leipzig.—During the period from Sept. 4th to 7th—simultaneously with the meeting of the American Pharmaceutical Association in Toronto—the German Pharmaceutical Society will hold their annual meeting in Leipzig. It is proposed to arrange an exhibition of pharmaceutical and chemical preparations, utensils or any other objects which find application in pharmacy. All illegitimate or unimportant articles will be excluded.

The Alumni Society Catalogue of the graduates of the Medical Department of the University of Pennsylvania has lately been issued. Persons desiring it or particulars concerning it, may address Horace Y. Evans, Seventeenth and Green Streets, Philadelphia.

Graduates from Medical Schools.—S. Armstrong, O. B. Batchelder, Harriet V. Bills, D. S. Campbell, E. C. David, L. M. Goodrich, T. E. W. Grover, G. A. Hendricks, I. W. Houston, A. R. Ingram, Juliet E. Marchant, L. G. North, W. Russel, Fanny Searles, J. D. Sherrick, S. S. Stearns, Frances A. Tenny, Sophia Volland, received the degree of M.D. at the commencement exercises of the University of Michigan, on the 27th of June. The course is to be extended to nine months. P. H. Barringer, North Carolina; Emmet D. Boaz, Virginia; J. H. Bryan, Washington, S. C.; Henry P. Cook, West Virginia; Wm. L. Estes, Tennessee; Henry A. Fairbairn, New York; John B. Guthrie, Virginia; Charles B. Kohlhausen, Virginia; Richard R. Lytte, Tennessee; Edward G. Maupin, Virginia; Frank Nash, Virginia; Julian F. Ward, Virginia; James G. Williamson, Virginia, received their diplomas from the Medical Department of the University of Virginia on the 28th ultimo. The University has received $80,000 from some unknown gentleman in Rochester, N. Y., for the purpose of building a Museum of Natural History.

The Cambridge University, of England, has made the change in the teaching of therapeutics inaugurated by the Medical Department of Harvard University in this country, and followed by the Medical Departments of the University of Michigan and the University of Pennsylvania, viz.: the separation of it from instruction in materia medica.

Aluminium of superior excellence is manufactured by the "Société anonyme de l'aluminium," Paris, Boulevard Poissonière 21. Their present prices are: aluminium in bars, $24 per kilo; sheet, $26 per kilo; wire, $31.50.

Export of Sulphur from Sicily.—Girgenti, Licata, Terranova and Catania are the four principal ports in which almost the entire export is concentrated. During the first seven months of 1875, this amounted to 129,797,786 kilos. The quantity on hand for export on Aug. 1st was 33,149,087 kilos.

Pharmacy in Roumania.—A new medical journal, published at Bucharest, and called *La Revue de Médicale Roumaine*, gives a number of interesting items relating to the progress of medicine and pharmacy in Roumania. The new chemical laboratory connected with the hospitals and medical school at Bucharest is said to be a model that others may well imitate. A school of pharmacy is in existence, and supplies the army, hospitals, and chemists with physical, chemical, and pharmaceutical laboratories. There is also a growing botanical garden. Each arrondissement has its own medical officer as well as a pharmaceutical ambulance for the gratuitous administration of drugs among the poor.

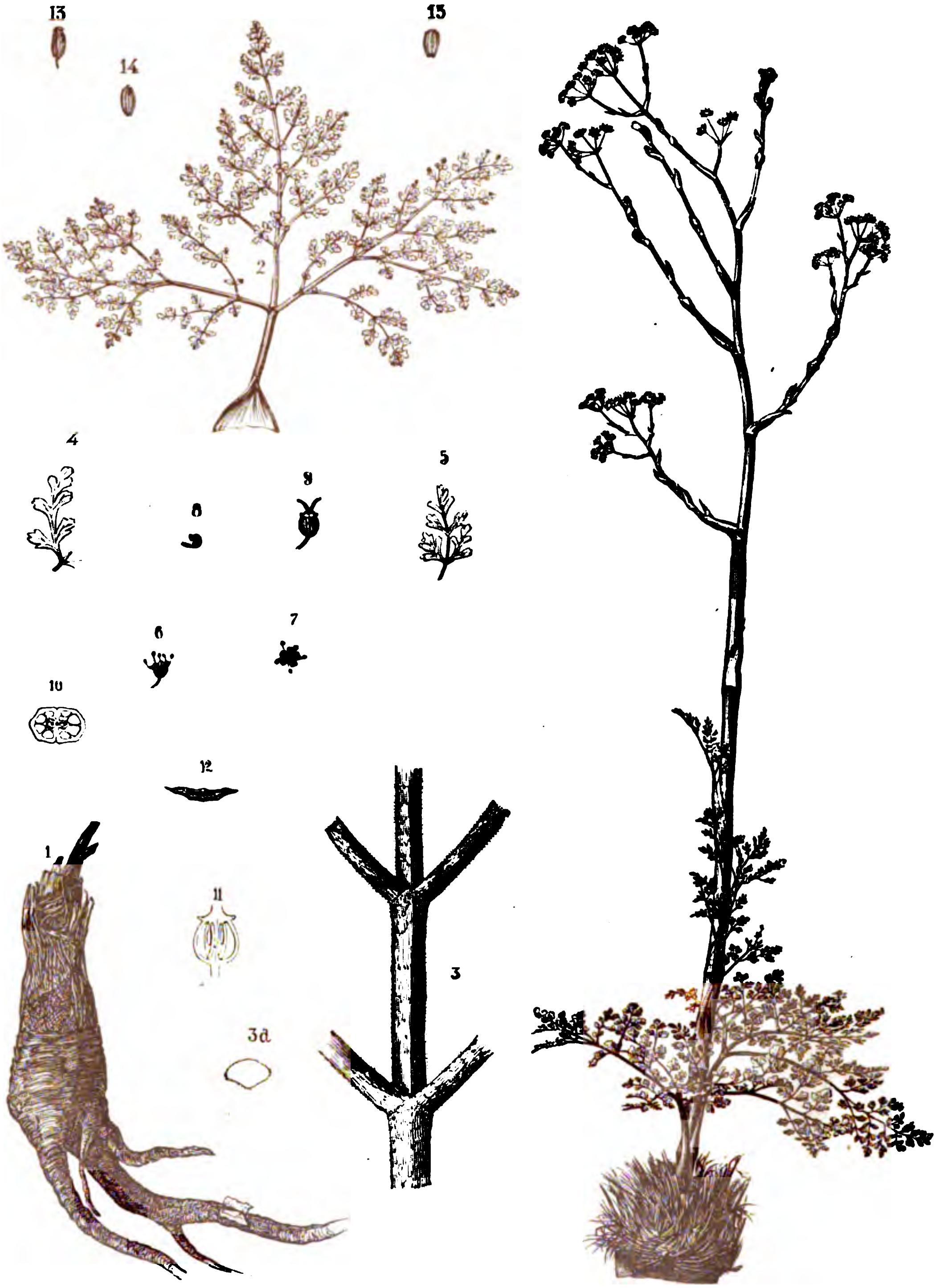
Substitute for Sand-bath.—A very convenient and easily regulated bath for heating, which may advantageously take the place of a sand-bath, except for high temperatures, consists of a solution of calcium chloride in glycerine, by which a temperature of from 572° to 626° F. may be attained.

A Course of Analytical Chemistry has been organized in the School of Pharmacy in Paris, under the direction of M. Personne, chief pharmacist of the Hôpital de la Pitié.

Therapeutic Hints.—In a recent address Prof. S. Weir Mitchell recommended the treatment of exhausted nervous patients by perfect rest in bed, and by shampooing, and gave the utmost praise to mountain-air exercise—such as walking and driving—as curative agents. He moreover remarked that European physicians are going to the extreme in ordering their patients mineral spring waters as panaceas.

Dr. Robert E. Rogers has been elected Professor of Chemistry in Jefferson Medical College, in Philadelphia, Pa.

"NEW REMEDIES," an Illustrated Monthly Trade Journal.
New York, August 15, 1877.



Euriangium Sumbul (Kaufmann).
Ferula Sumbul (Hooker Fil.).

NEW REMEDIES.

AN ILLUSTRATED MONTHLY TRADE JOURNAL OF
MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

VOL. VI., No. 8, WHOLE No. 38.

FRED'K A. CASTLE, M.D., - - EDITOR.
CHARLES RICE, - - ASSOCIATE EDITOR.

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PUBLISHERS' NOTICES.

☞ NOTICE.—*The Laboratory*, heretofore published in Boston, has been discontinued, and its list of subscribers transferred to NEW REMEDIES. Thus, with its already large subscription patronage, its steadily and rapidly increasing regular circulation, and its established reputation, NEW REMEDIES claims to have no equal in the United States as an advertising medium for chemists and druggists, and dealers in any of the great variety of articles usually sold by the drug trade.

QUOTATIONS from NEW REMEDIES in other journals are becoming very frequent, a compliment which would be more appreciated if credit was given as freely.

WE are pleased to observe that the example of this journal, in publishing something new and original on the soda-water question, is having its effect upon other drug journals. No reference, however, is made by them to NEW REMEDIES.

THOSE who receive specimen copies this mouth will please observe the following special features, to be found ONLY IN NEW REMEDIES, viz.: Full page plates, plain and colored; wood engravings, profusely illustrating every No.; résumé each month of all articles in other journals of interest to the drug trade; Trade Notes and Novelties; Patents and Laws, of interest to, and affecting the drug trade. The most complete Prices Current, in addition to which attention is respectfully directed to the departments of Materia Medica, of Pharmacy, and of Therapeutics, to the Drug Market Report, to the Prescriptions and Formulæ, Notes and Queries, etc., etc.

FOREIGN manufacturers and jobbers will find this journal the most advantageous for advertising anything to be brought before the druggists and chemists of North America. For terms, see head of this column; remittance by bankers' draft on New York.

EDITORIAL.

SINCE its commencement in 1851, the American Pharmaceutical Association has become one of the most creditable scientific organizations to which this country can lay claim. From year to year the character of its meetings has improved coincidently with the advances which have been made in pharmacy, and its published proceedings have become as highly esteemed as the most valued works in pharmaceutical literature.

Like the science and art, which it both represents and encourages, it is not altogether limited by political and geographical boundaries, and its approaching meeting in a Canadian city will undoubtedly prove as eminently profitable in all respects as former ones have been in more central localities.

No small proportion of the success which has attended the career of the Association is owing to the forethought and business capacity of those who have been elected to hold office; and there is little that remains to be suggested, in the way of improvement in the mode of conducting the meetings, that has not already been foreseen and provided for. One plan, however, has lately been adopted by a number of scientific societies, which has largely increased the interest taken in their meetings, as well as effected a considerable improvement in the character of the work performed and the rapidity with which it has been disposed of, and we take the liberty of suggesting its trial by the united pharmacists. It is the publication, a short time before the meeting, of a schedule of papers to be read, reports to be presented, and general business to be transacted—assigning, as near as may be, the time for each.

There are few persons, however good their general information may be, who can be prepared, without previous notice, to discuss subjects about which they may be practically familiar. The American Pharmaceutical Association is especially fortunate in having an unusual number of exceptions to this rule. For this reason its members may not appreciate how much may be lost while they are listening to others whose wisdom and fluent delivery have so well fitted them to participate in discussions. It is a short-sighted policy which does not take into consideration the success of future meetings; and since freedom of speech comes quite as much from practice as from inherent talent, it is worth the while to offer the younger and less confident members every advantage that can reasonably be given them.

It is true that we sometimes suffer from the infliction of speakers who talk for no better reason, apparently, than the love of oratory, and no one can be less disposed than we are to increase the opportunities at present enjoyed by this class; but do we not also sometimes see speakers in scientific gatherings, who, instead of wanting to say *something, have* something to say, but, in the embarrassment of talking to a roomful of people on a subject regarding which they have had no opportunity to arrange their thoughts, hesitate for words, mix their sentences, lose track of the leading points of the question, and consume more valuable time in extricating themselves from dilemmas than in expressing ideas. A few weeks, or even days, of time during which to think over the subject and elaborate their ideas, would make all the difference with such speakers, while, on the other hand, the loquacious member, with a knowledge of other important matters to come, might restrain his flow of words.

On page 255 we publish the programme laid out by the Secretary of the American Pharmaceutical Association, which should induce a considerable number of visitors from the States to start early and reaching the rendezvous at Watkins' Glen, enjoy a visit to a spot well known for its remarkable scenery. In addition to the features of the meeting mentioned in the notice referred to, the programme, according to the *Canadian Pharmaceutical Journal*, is to include a reception at the Toronto Normal School Building, on the evening of Wednesday, September 6th. The Minister of Education has kindly placed the entire building at the disposal of the Canadian Pharmaceutical Council. Dr. May promises his aid with scientific experiments. Microscopes and specimens have been offered, and music and refreshments will be provided in an adjoining building. The druggists of Ontario, with their wives and daughters, are expected to be present, and an enjoyable evening is in prospect.

It has also been suggested that an excursion, in the shape of the establishment of one or more camps at some good fishing ground, should follow the meeting, and any one wishing to join is directed to apply to the local secretary. If possible, a ladies' camp will also be organized.

Let the despondent apothecary take heart, for there is one place on this broad continent where the combined talent of the medical profession ingloriously acknowledges his power. In the announcement of a new medical college in the valley of the Maumee (famed in song for small potatoes), the faculty gravely announce, among the reasons why that locality is absolutely in need of a medical college, as follows:

> "A want has long been felt of a class of men to intercede between the druggist and the patient, to see that the latter really receives what the physician desires he should have. There is no class of men upon whom duty and interest combine so decidedly to enjoin such service, as upon the medical profession," etc., etc.

Shades of Hippocrates defend us!

The most important question which just now agitates the minds of persons interested in the manufacture and sale of drugs and chemicals in this country, is the effort being made to bring about the abolition of the present tariff on chemicals, drugs, dyes, dye-stuffs, oils, seeds, herbs, and medicines.

Already a number of the medical societies throughout the country have endorsed the "Morrison Bill," as it is called, so far as it relates to the cinchona alkaloids; but, compared with the other interests involved, this is of minor importance.

At a recent meeting of the Manufacturing Chemists' Association of the United States, a number of resolutions were adopted, in the course of which it was demanded that any general policy of the government, whatever it may be, shall be made to apply to them, as to other manufacturers.

A reference to page 157 of our May number will show that at present all crude drugs, acids for manufacturing purposes, and natural mineral waters are admitted free, and that the amount paid on dutiable goods varies from 10 per cent. on acids for medicinal use, to 40 per cent. on pharmaceutical preparations, and 50 per cent. on proprietary medicines.

There are few drugs which can be made use of without undergoing some process of manufacture, and the result is that the sick man pays indirectly a tariff on almost all articles of medicine consumed by him. This, however, is likewise the case with almost every article of daily consumption; and the argument of the manufacturers of chemicals and medicines, that there would be no justice in protecting other industries and leaving them alone to compete in open market with foreign manufacturers, is to our minds irrefutable.

The fact that three establishments separate most, if not quite all of the cinchona alkaloids which are manufactured in this country, would appear at first glance to simplify the question so far as it relates to this one class of products; but in truth the principle remains the same, whether three or three hundred establishments are concerned. If it were evident that an abolition or reduction of the duty on quinia would confer so great a blessing upon thousands of residents in malarial regions, as is claimed by those who advocate such changes, there would be more reason for it, although the interests of a few individuals might suffer to the extent of an utter destruction of their business; but it is by no means proven that the opening of our ports to the products of foreign manufacturers of quinia would give us a cheaper article of a quality equal to that which we now purchase. At present only the very best grades of quinia manufactured abroad can compete with the excellent alkaloids supplied by our home manufacturers, and there are reasons given which make it appear that, with the abolition of the present tariff, the market would receive a quantity of adulterated alkaloids, of which a sample sent to the Chinese market, containing fifty per cent. of carbonate of magnesia, might be taken as an example.

We fear that such resolutions as those adopted by the Michigan State Society, and republished on page 255 of this number, will have little influence with legislators besides lessening the respect they may have for the body that adopted them. It strikes us that a province in which medical men can more profitably exert themselves is in encouraging the use of the cheap cinchona alkaloids in cases where they can be made to take the place of quinia. A greater demand for these might tend to raise their price somewhat, but it would quite as likely enable the manufacturers to reduce the price of the expensive salt proportionately.

Another instance in which it would appear that a protective tariff might be abolished in the interests of a large class of the community, is in the case of soda salts. It is commonly understood that the right to work the mines in Greenland, which furnish us with our chief supply of cryolite, from which soda is now largely manufactured, is owned by one Philadelphia company, who are the sole gainers by the duty of 20 per cent. which is imposed on foreign manufactured soda. Since they are said also to own most, if not all, of the patents which govern the process of manufacture, but little competition could be feared from abroad, even if the duty of 20 per cent. *were* abolished. If these statements are true, this company have no right to claim the continuation of the 20 per cent. duty, on the grounds of necessary protection of home manufactures.

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

The Sumbul Plant.

THE drug known as sumbul or musk-root was first introduced into Russia, about the year 1835, as a substitute for musk, and recommended as a remedy in cholera; about five years later it began to be known in Germany, and ten years afterwards in England and in this country. It was admitted into the British Pharmacopœia in 1867.

Sumbul, as found in commerce, is in roundish pieces, which are transverse sections of the root. They vary from one and one-half to three, rarely five inches in diameter, and from three-fourths to one and one-half inches in thickness. On the outer surface they are covered with a dusky, light brown, transversely-wrinkled, papery bark, and when derived from the crown of the root, are beset with short, bristly fibres. The interior structure is spongy, coarsely fibrous, dry, and farinaceous-looking; the color is reddish brown, mottled with whitish patches, and when the surface is examined with the lens, it presents, particularly towards the circumference, an abundant resinous exudation. It has a strong, pleasant, musky odor, which it retains for a long time; hence the name musk-root. Its taste is at first feebly sweetish, but it soon becomes bitterish and aromatic.

Until 1869 it was only known to be the root of some umbelliferous plant, from the fact that it yielded umbelliferone by dry distillation, and that its structure was identical with that of most other Umbelliferæ. The plant itself was discovered, in 1869, by Fedschenko, in the mountains to the south-east of Samarkand (which forms the present boundary of the Russian empire, separating Russian Turkestan from Bucharia), near the small town of Pentschakend, on the river Zarafshan, at an elevation of 3,000 to 4,000 feet. A root was sent to the Moscow Botanical Gardens, where it flowered in 1871, and was determined by Kauffman as a new genus of Umbelliferæ, with the name *Euryangium Sumbul.*

In 1872 two dry roots were received at Kew from Moscow, one of which had fortunately retained its vitality. This threw up root-leaves each year, and in 1875 produced a fine flowering stem, which grew vigorously and bore numerous umbels, the leaves withering away; unfortunately, although the ovaries commenced to increase in size, they withered off and no fruit was formed. After flowering, the plant died.

The genus *Euryangium* was based by its author on the very large solitary dorsal vittæ which in the ovary occupy by far the greater part of it. These are filled with copious latex, which pours out on a section being made, and has a very strong odor of musk, especially if treated with water. In the absence of ripe fruit, this character might have been held sufficient perhaps to sustain the generic distinction; but an examination of some ripe mericarps, sent from the Moscow Herbarium by M. Tschistiakoff, has convinced Prof. Bentley and Mr. Trimen (from whose work on "*Medicinal Plants*" we have taken the greater portion of this text) that the plant should be referred to *Ferula*, of which it has altogether the habit and general characters. It has, therefore, been named *Ferula Sumbul* by Hooker fil.*

Dried sumbul root yields about 9 per cent. of a *balsamic resin*, a very minute quantity of *volatile oil*, about 0.25 per cent. of a crystallizable acid called *sumbulic* or *sumbulolic acid*, a little *umbelliferone*, *starch*, and other unimportant constituents. The resin is soft, soluble in ether, and of a musky odor, which is rendered more evident by contact with water; it is converted by the action of solution of potash into *sumbulamic acid*, which forms a crystalline salt with it. This acid is said by Reinsch to be a crystalline body, and to have a strong smell of musk. It is in this resin that the activity of sumbul root appears essentially to reside. But little is known of the volatile oil or of sumbulic acid; the latter is stated by Ricker and Reinsch to be nothing more than angelic acid, associated with a trace of valerianic acid. A substance called *sumbulin* has also been stated by Murawieff to be a constituent of sumbul root. All the above constituents require further examination.

The accompanying plates illustrate the plant itself and its principal characteristic organs. The plant is a herbaceous perennial of limited duration, probably always dying after flowering. The large cylindrical root attains a diameter of 4–5 inches, and divides below into several long descending branches. The flowering stem is erect, from 5 to 8 feet high, slender, cylindrical, solid, about 1½ inch thick at the base, purplish, containing a milky juice, and bearing 12 stiff, long, slender divaricate branches in the upper half. The root-leaves are large, about 2½ feet long. The flowers are polygamous; umbels of bisexual flowers terminating the branches, male umbels lateral.

Explanation of Plates (both after Kauffmann): *Plate* 1 represents the whole plant. *Plate* 2, Fig. 1, sumbul-root. Fig. 2, one of the lower stem-leaves of the Moscow plant. Fig. 3, a portion of the middle secondary petiole, with the bases of the tertiary petiole arising from it; from the root-leaf of a wild plant. Fig. 3, *a*, the same petiole in cross-section. Fig. 4, single leaflet of a root-leaf from a wild plant. Fig. 5, portion of a tertiary petiole with its leaflets, from a wild plant. Fig. 6, a, flower seen from the side and slightly from above; the peduncle was cut close to its base. Fig. 7, the same, seen from above. Fig. 8, a bract. Fig. 9, a pistil, after flowering. Fig. 10, transverse section of ovary. Fig. 11, vertical section of same. Fig. 12, middle cross-section of a mericarp (umbelliferous half-fruit). Fig. 13, side view of a mericarp; the carpophorum divided to the base; the fruit-stalk cut off close to the base. Fig. 14, dorsal view of a mericarp. Fig. 15, commissural view of a mericarp.

Sumbul is usually regarded as a nervine stimulant like valerian, and as an antispasmodic; but its action requires further investigation. It has also been employed, chiefly in form of tincture, as a remedy in low typhoid fevers, delirium tremens, chronic pulmonary affections, asthenic cases of dysentery and diarrhœa, and various nervous affections, as hysteria, chorea, epilepsy, spasmodic asthma, etc. Dr. Murawieff, of Russia, has recommended the use of the resin in the dose of a grain or two, in the form of a pill, in hysteria and other nervous diseases.

Practical Hints about Dialysis.

DIALYSIS is a species of osmosis, that is, a diffusion or passage of fluids through organic membranes. The late Thomas Graham, to whom we are indebted for the first knowledge of the law of diffusion, divides bodies, in respect to their diffusibility, into two classes: one of these he termed *Crystalloids*,* being mostly crystallizable substances, or closely approaching them in character. They have a strong affinity for their solvents, and retard the evaporation of the latter by their presence. The other class he denominated *Colloids*,† which are uncrystallizable, of a glassy or horny structure when dry (like gelatine, etc.), and generally of an insipid taste.

These two classes of bodies may be almost entirely separated from each other, by placing the mixture containing them on one side of an organic membrane, which is in contact with water on the other. A double osmosis then takes place: from one side the crystalloids pass through the membranes into the water, and from the other side water passes into the mixture. The ratio of diffusion is inversely proportional to the densities of the liquids on either side: a dense liquid will pass slowly; a dilute liquid, or pure water, more rapidly. The colloid substances, however, are not absolutely retained on one side; they also pass through the membrane, but at so slow a rate that the crystalloids may nearly all have penetrated the membrane before an appreciable amount of colloids has accompanied them.

The apparatus employed for this process is generally constructed in the following manner: A light hoop of wood, or of gutta percha, (Fig. 1), or better, of glass, (Fig. 2), about 2 inches deep and 5–10 inches in diameter, is covered with a piece of moistened bladder or parchment paper—which have been found in practice to be the most suitable membranes for this purpose—so as to form a sieve-like vessel. The disk of bladder or parchment-paper should be considerably larger in diameter than the hoop, and it should be bound to the latter by a string, or by another hoop of similar material. The membrane must be entirely free from rents or pin-holes, which may be ascertained by sponging one side with water, and observing whether any wet spots appear on the other side. In the latter case, the defects may sometimes be remedied by applying liquid albumen, and coagulating it by heat. Broad glass shades, or lamp-chimneys, or similar articles, may also be used. In absence of these, a funnel, the neck of which is broken off, may answer; only in this case the membrane is placed inside of it, folded in the form of a star-filter. The apparatus then, prepared in any of these ways, is called the *dialyser*.

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* *Bot. Magaz.*, t. 6196 (1875).

* *Crystalloids* means "bodies resembling crystallizable substances."

† *Colloids* means "bodies resembling glue or gelatine," from κόλλα, kolla, the glue.

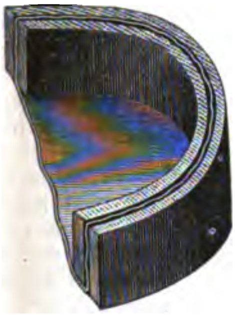

FIG. 1.

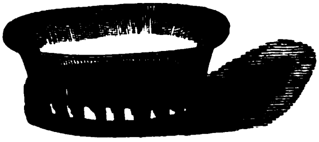

FIG. 2.

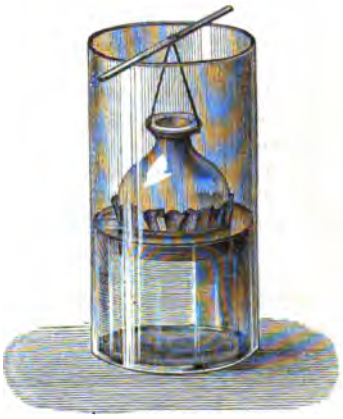

FIG. 3.

This is floated upon a quantity of pure water contained in another larger vessel, which has received the name "*exarysator*."* The size of the latter and the amount of water contained in it depend upon the object to be accomplished. If the colloid substance remaining in the dialyser be our chief object, it is best to employ a large quantity of water at once; the crystalloid bodies pass into this in the form of a dense solution, which sinks to the bottom and causes the lighter unsaturated water to be constantly pushed up towards the membrane. If we, however, want to separate the crystalloids, to the neglect of the colloids, we must use as small a quantity of water as possible.

The liquid to be dialysed is poured into the dialyser to the height of about one-half inch, or a little more, but never to exceed one-fourth of its depth, and the apparatus then floated on the water in the exarysator. The best way is to introduce just as much liquid into the dialyser as will cause the latter to sink into the water to one-third of the height of the contained liquid. These precautions are necessitated by the fact that water will diffuse upward into the dialyser more rapidly than the crystalloids will pass through the other way; and this is more particularly the case when bladder is used. It is useful to suspend the dialyser in such a manner as is shown in one of the cuts. The solution of crystalloids produced in the surrounding water is called *diffusate*. In most cases the diffusion may be greatly accelerated by the application of a gentle heat.

Rest as a Therapeutic Agent.

DR. S. WEIR MITCHELL, in the course of an oration before the Medical and Chirurgical Faculty of Maryland in April last, made the following interesting suggestions regarding the treatment of a most troublesome class of cases:

"But if it is easy to fatten and redden some people, we know, also, that it is hard to compass this in others. In our great cities there exist a host of influences for evil which result in all classes, and especially in women, in the gradual creation of patients who, having lost weight and become anæmic, find it hard to regain that competency of capital in fat and blood without which the business of life is carried on at a dangerous cost. We search in vain in these cases for organic changes which may explain their condition. No function is well performed; but it is useless to correct digestion or to treat an ulcerated womb, or order exercise. The blood is lacking to aid in the little gains we win, and exercise is valueless or worse when it exhausts tissues which lack the means of being rebuilded.

"I need not dwell on points so obvious to educated physicians. For many years past I have had my thoughts directed to this subject, and, like every one here, I have gone on month after month treating such cases with no better, and, I hope, no worse fortune than has fallen to others. A moment of happy thought, and much reflection since, led me to a method of treating, which has rewarded me over and over with success so brilliant that, as the plan of cure involves the use of those extreme measures of which I have been speaking, I may be pardoned for calling them to your attention.

"And perhaps also the path by which I reached my conclusions may not lack interest.

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* The "exhauster," from ἐξαρύω, to exhaust.

"Some years ago I saw a woman, who was like half a dozen any of you can now recall—a pallid, feeble creature, who had menstruated irregularly until two years before, and then stopped at the age of thirty. She was the type of a class. Everything wearied her—to walk, to read, to drive, to sew. She was the woman with a back, and a shawl on her shoulders, and a sofa for a home, and hysterics for diversion. She had tired out the doctors, and exhausted drug-shops and spas and travel, and outlived a nurse or two. The deformity-man had found a spinal curvature, and put on a brace; the gynæcologist had had his turn; the quacks had had their share; and she wore blue glasses to keep out the blessing of daylight. She was five feet four, and weighed ninety-four pounds, and had as much figure as a hat-rack, and had no more bosom than the average chicken of the boarding-house table. Nature had wisely prohibited this being from increasing her breed. How many of you have stood helpless before this woman! Like you, I had had my failures with such cases, and I was driven to reflect as to what new device I could try. Because everything tired her I put her at rest in bed. I made rest despotic, absolute. Then I fed her with milk at brief intervals. But in a few days my plan failed. Rest she took well enough, but attempts to feed resulted in sick stomach and diarrhœa, and new loathing for food. Then I said, I must find some way to give exercise without exertion. I had seen in Europe how much use was made of systematic massage or kneading of the muscles. I knew that under its use the feeble limbs of ataxics strengthen for a time, so that hopeful friends even dream of a cure; and I was aware that it improved the local blood-circulation in a remarkable way, and gave to feeble and flabby tissues increase of tone and firm plumpness. It seemed to me that it could take the place of exercise for persons at rest.

"I had also in electricity another means of causing muscles to contract without the action of will or the exhausting use of nerve-force.

"For the first time, then, I used on a woman at rest thorough massage and the abrupt muscle-stirring of an inductive current.

"To my great pleasure, I found in a few days a return of appetite. But is kneading of muscles a mere fetish also? What scientific test have we of its activity? One, and a sure one, which I have lately found. In weakly people, despite the exposure to the air it involves, this process raises the general temperature ½° to 1½° Fahr. And, as I discovered this winter, to my surprise and pleasure, an induction current, either localized or merely allowed to pass to and fro from neck to feet, does precisely the same. They effect tissue metamorphosis for the patient in tissues little used in bed.

"I have employed every degree of rest; but in this woman's case, as usually, I permitted no exertion which could be avoided, and I carried it to such an extreme as to have the patient fed by hand, because it is tiresome while recumbent to use the arms, and because I have found that human beings, like turkeys, can be made to eat more when fed by another agent.

"To this treatment in a few days may be added raw soup and butter, and meat extracts, and iron in large doses.

"I fed this woman, with growing surprise at her power to digest as she reddened and fattened. And how did she fatten and redden? The nails became pink; the veins began to show in the limbs. At first, as always, the extremities became cold under massage, then they grew warm, and at last, when she was well, the massage no longer elevated her temperature. And this is the rule. And as to fat, it comes first on the face and neck, and then on the back and belly, and last on the limbs.

"By absolute rest, massage, and induction-currents, you acquire power to over-feed, and the tissues are enabled to reclothe themselves with fat, and, what is better, you can thus refill the blood-vessels. This woman came to me thin, sallow, ugly, and feeble. I sent her home fat and well, and vigorous and handsome, and menstruating steadily; and then nature relented and gave her a baby.

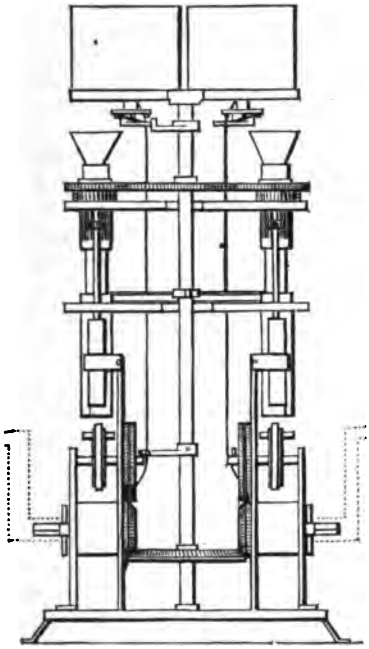
"This treatment has been to me a new light. I use it now without fear or hesitation, and think that I have learned at last how to recreate the blood and how to fatten. I have quoted one real case, my first. But this is no place nor occasion to relate cases, or to enter into details, as I shall elsewhere; but I may venture again to say a word as to two facts, even at the risk of being minute. During the treatment slight hemorrhages from the nose are not uncommon, but the return of regular menstruation is a better test of the rapid gain in blood. It nearly always becomes regular, and in three cases has returned during the first month of treatment, after absence, respectively, of three, five, and eight years.

"The gain of fat is sometimes at the rate of one-half pound a day. I have seen it reach three-fourths of a pound a day; but these rates are rare.

"The applications of this treatment are many. I have used it in numbers of cases, selecting at first such as had no hopeless organic disease. I have also used it to prepare feeble people for surgical operations, and within a year I have ventured to treat in this peculiar way people in the early stages of pulmonary phthisis. I have seen as to these some notable facts, and have learned that in some such cases rest and over-feeding are of true curative value; for this is one of the doctor's best lessons, that there may be one way or several to a cure. In the early stages of phthisis we have all come to think air and exercise and out-door life the one thing needful or hopeful, and I may be thought insane to propose to treat such cases by rest and excessive feeding; but I promised at the outset to give you personal and practical experiences, and this is one, and now and then I have seen it do good service."

Simple Method of Testing the Purity of Chloroform.

Dr. Lueke, of Strasbourg, gives the following simple method of testing the purity of chloroform: Immerse a small piece of thin white blotting-paper into the chloroform, and then let it dry in the air. As soon as all the chloroform has evaporated, the paper will not present the least smell if the chloroform is pure. If there is any acid smell perceptible, it indicates the presence of butyric acid in the chloroform, and as a rule has the strong characteristic odor of that substance.



Seidlitz Powder Machine.

Charles R. Doane, of Brooklyn, is the inventor and patentee of a machine for putting up Seidlitz and other powders with great exactness, neatness, and rapidity; its capacity, when run at a moderate rate of speed, being five hundred powders per hour. The powder in bulk is placed in the receptacles on top of the machine—the acid on the left and the alkali on the right—from whence it is discharged by appropriate measures through the funnels below into papers made ready to receive it by the mechanism at the base. The whole operation of measuring, depositing, folding, pressing, and discharging, is accomplished by a half-revolution of the perpendicular shaft, and the powders are cast out—the white to the left and the blue to the right—ready for boxing. A point of considerable importance is, that each powder is enveloped in two thicknesses of paper, thereby preventing deliquescence of the acid powder, and yet no more paper is used than for single thickness—in hand-folding the paper used for the fold in the old method furnishing the outer wrapper in this. A device beneath the bed-plate provides for the application of power, if desired.

Effects of Medicines upon the Fœtus.

In a paper by John L. Cleaveland, M.D., published in *The Clinic*, the following conclusions are advanced:

1. Certain remedies, *e. g.*, potassium iodide, salicylic acid, and chloroform, may pass from the maternal into the fœtal circulation.

2. The acute exanthemata, scarlatina, measles, small-pox, and perhaps vaccination, can be transmitted by the mother to the fœtus. Whether syphilis passes from the mother to the fœtus, or *vice versa*, remains yet undecided. The effect of maternal, mental, and emotional influences upon the vitality and development of the fœtus is yet undetermined.

As to the therapeutic effects of medicines upon the fœtus almost nothing is known. There is only one class of remedies that is administered with the belief of hope that they will have any effect upon the fœtus, namely, syphilis specifics, and the efficacy of these is stoutly denied by some.

Chloroform is known certainly to enter the fœtal circulation, but it is not known to exercise any pernicious effects. Zweifel claims that jaundice may be caused. This, however, is not proved.

It has not been demonstrated that morphia passes into fœtal circulation, but clinical experience appears to prove that in the hands of most practitioners, and in the vast majority of cases, opiates may be used with safety to the fœtus.

It appears, however, on the other hand, from the testimony of some observers, that the hypodermic use of morphia to its full physiological effect produces in the fœtus dangerous phenomena, cyanotis, impaired respiration, irregular pulse, contracted pupils, a disposition to sleep, and sometimes convulsions. It is of the utmost practical importance to us all that this latter point should be determined.

Improvement in the Manufacture of Oxalic Acid.

Mr. Ed. Bohlig, of Eisenach, has devised an improved process for the preparation of pure oxalic acid, which materially shortens the time, labor, and therefore expense of its manufacture. The first step of this process is identical with that hitherto practised, of which the following is an outline.

A solution of caustic potassa, of 36° Baumé, is heated to boiling in a strong iron boiler, and pine-wood sawdust is added until the mass becomes thick. The heat is continued, and when the water has evaporated, the contents of the boiler soon return to a liquid state, become homogeneous, and assume a turmeric yellow color. After heating for two to two and one-half hours longer, the fire is withdrawn, and the solution allowed to cool a little. Water is then added slowly to the still hot mass, until the density of the solution is 40° B., when it is allowed to become entirely cold. The yield of potassium oxalate, which is completely insoluble in a lye of 40° B., is very large. This product, potassium oxalate, or sodium oxalate, if soda has been used instead of potassa, has up to the present time been decomposed by boiling with milk of lime, which must be done in dilute solution. This produces a dilute soda or potassa lye, and a voluminous precipitate containing calcium oxalate and large quantities of calcium carbonate, necessitating the waste of a considerable quantity of sulphuric acid, which must be added not only to decompose the oxalate, but likewise to convert the excess of carbonate into sulphate. The resulting solution of oxalic acid is very dilute, and requires to be concentrated by heat, besides being still impure.

Mr. Bohlig's improvement consists in dissolving the washed and recrystallized potassium oxalate, obtained in the first step of the process, in a large quantity of hot water, and precipitating with a solution of magnesium chloride or sulphate. The well-washed precipitated magnesium oxalate is heated in a wooden vat by means of a steam coil, and concentrated hydrochloric acid is added, until everything is dissolved. The clarified solution is drawn off, while still hot, into stone-ware vessels, and on cooling pure oxalic acid crystallizes, which needs only to be washed and recrystallized to be chemically pure.—*Bayer. Ind. und Gew. Bl.*, 1877, 6.

The Use of Lacto-Phosphate of Lime in the Artificial Production of Dentine.

IN the *Transactions of the New York Odontological Society* is a paper on the artificial production of secondary dentine, by the use of lacto-phosphate of lime over exposed dental pulps. The writer states that phosphate of lime partially digested in lactic acid and applied in a more or less thick paste to an exposed dental pulp in the plasma and applied at once in the building up of secondary dentine, and the restoration of the lost parts. If this is true there would seem to be nothing in the way of building up in this manner a whole tooth minus the enamel, and it would seem to be an exception to every law of nature, which demands that nutrition shall come by the way of the circulation.

On the Quantitative Estimation of Soda and Potassa.

IN order to determine in a mixture of potassium and sodium carbonates the proportion of the two bases by the so-called indirect method, it has been hitherto customary to convert the two carbonates either into neutral sulphates or into chlorides. This proceeding, however, is unnecessary, since the determination of the carbonic acid serves to accomplish the same purpose. If the carbonic acid is found to be over 31.80 per cent. (percentage of carbonic acid in potassium carbonate), or to be less than 41.47 per cent. (percentage of carbonic acid in sodium carbonate), this proves in itself that we have to deal with a mixture of the two carbonates.

To find the quantity of potassa, the weight of the two bases is multiplied with 1.708763,[*] the product is subtracted from the weight of the two salts, and the remainder is divided by 0.242663.[†]

The weight of soda is found by multiplying the weight of the two bases with 1.4661, deducting from the product the weight of the two salts, and dividing the remainder by 0.242663.

Example:

The weight of both carbonates together 2.000 gm.
That of the carbonic acid liberated....0.744 "
Hence weight of the two bases.........1.256 "

Calculation of Potassa:

a. $1.708763 \times 1.256 = 2.146206338$
b. $2.0 - 2.146206338 = -0.146206338$
c. $0.146206338 : 0.242663 = 0.6025$ potassa.

Calculation of Soda:

a. $1.4661 \times 1.256 = 1.8414216$
b. $1.8414216 - 2.00 = -0.1585783$
c. $0.1585783 : 0.242663 = 0.6535$ soda.

Proof:

0.6025 potassa = 0.8833 potassium carbonate.
0.6535 soda = 1.1167 sodium carbonate.
1.2560 mixed alkalies = 2.0000 mixed carbonates.

—C. G. WITTSTEIN, in *Phar. Centralh.*, 1877, 161.

Sophora Speciosa, Benth.

THIS newly described medicinal substance is a small red bean, irregularly oval or roundish, about one-third of an inch in length, and having a slightly bitter taste, with an after-feeling of numbness when chewed. Some of these beans have been sent to the Smithsonian Institute, at Washington, by Mr. Edmund Billinger, Sr., of Texas, who stated that they were occasionally used by Indians in the neighborhood of San Antonio, South-western Texas, as an intoxicant; that a half-bean would produce delirious exhilaration, followed by sleep lasting two or three days; and that it was asserted that a whole bean would kill a man.

Some of these beans having been sent to Professor Horatio C. Wood, of Philadelphia, he obtained other samples from Mr. Billinger, and together with the latter some of the flowers of the plant. Dr. Rothrock, Professor of Botany in the University of Pennsylvania, after an examination of the latter, pronounced the source to be the *Sophora speciosa* of Bentham.

Professor Wood has obtained a small amount of organic principle from the beans, which is extremely active as a poison, the minutest speck producing, in two minutes, almost entire paralysis in the frog. One-twentieth of a grain of a very impure specimen produced, in a half-grown cat, deep sleep lasting many hours.

As the substance is not soluble in water, but is soluble in acidulated water, and is precipitated by alkalies; and as it dissolves freely in ether, imparting to it a decidedly alkaline reaction, Professor Wood looks upon it as an alkaloid, and gives it the name *sophoria.*

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[*] Quotient obtained by dividing the molecular weight of sodium carbonate by that of soda.

[†] Remainder left after subtracting from 1.708763 the number 1.4661, which is the quotient obtained by dividing the molecular weight of potassium carbonate by that of potassa.

The sample obtained by Dr. Wood was of grayish white color, but he did not succeed in crystallizing either it or its acetate. Its reactions, so far as he had examined them, were as follows (the tests being made by placing a speck of the alkaloid upon a porcelain plate and applying the reagent):

With concentrated sulphuric acid, no color.

With chromic acid and concentrated sulphuric acid, a dirty, deep purple, passing rapidly into bright green, then into bluish, and finally into yellowish brown.

With tincture of the chloride of iron, a deep, almost blood red, after a time acquiring an orange tint.

With nitric acid, no color.

With chromic and nitric acids, a very faint, evanescent, reddish color.

With nitro-muriatic acid, a dirty, reddish brown.

From the solution of its acetate, compound tincture of iodine throws down a yellowish precipitate.

The experiments, made by Dr. Wood upon lower animals, with a view to determining the effects of the remedy upon them, show that *frogs* rapidly lose reflex activity and power of voluntary movements. Further experiments demonstrated that this effect was due to the action of the drug as a spinal sedative, and that it had little or no effect upon either motor or sensory nerves.

Upon *mammals* the effect varies somewhat according to the dose. An amount of the extract estimated at two grains produced in a full-grown cat, in one minute, marked weakness in the hind legs; in two minutes, inability to stand, with evident effect upon the respiration; in three minutes, convulsive movements, with loss of consciousness, continuing with increasing embarrassment of breathing for three minutes, when all attempts at respiration ceased. The heart kept on beating for one and a half minutes longer. The pupils were unaffected at first, afterwards dilated. In small quantity the extract produces, in the cat, vomiting, great muscular weakness, profound quietude, and deep sleep lasting some hours and ending in recovery. Similar symptoms occurred in dogs. Death always took place through stoppage of respiration. In a single cardiac experiment the drug had no decided effect upon the blood-pressure until towards death, but appeared to accelerate the heart-beat.—*Medical Times.*

A New Gravimeter.

In an interesting paper presented by J. J. Mann, on the subject of testing the strength of Portland cement and other materials of the same class, reference is made to the mode of determining their specific gravity, and a very simple and practical method is suggested by the author of the paper. He employs an ordinary specific gravity bottle, and a graduated pipette which holds the same quantity of fluid as the bottle, the measure in both being indicated by a cut on the glass; a known quantity of cement, say 100 grains, is introduced into the flask, and the remaining space is filled from the pipette with any liquid which will not dissolve the cement or cause it to set. It only remains to observe the height at which the liquid stands on the scale of the pipette, which is graduated experimentally in order to ascertain the density of the substance experimented upon. This contrivance dispenses with the somewhat tedious process in ordinary use for taking the specific gravity of solids in a powdered condition, and is not unlikely to become of more general utility than anticipated by the gentleman who has introduced it.

The Supposed Poisonous Effects of Dental Vulcanite.

Mr. Bathurst Woodman having published a statement to the effect that he had observed several cases where patients had shown evidences of mercurial poisoning for which he could find no other explanation than that they were wearing artificial gums or palates colored with vermilion, the Odontological Society of Great Britain has been engaged in an investigation of the matter.

The report which the committee made on the subject included another from Prof. Attfield, who had undertaken a series of experiments with results leading to the following conclusions:

"1. So far as any action on man is concerned, vermilion is a harmless substance.

"2. So far as any action or influence of the vermilion is concerned, the mixture of vermilion, sulphur, and india-rubber, commonly termed dental rubber, is also a perfectly innocuous substance.

"3. Pink or red dental vulcanite, even when placed under the severest conditions of experiment, does not yield any trace of mercury to saliva, or indeed to other far more powerful solvents.

"4. The metallic points and braces in dental vulcanite do not displace mercury, or induce the formation of any compound of mercury soluble in saliva or in more powerful solvents.

"5. The results of this investigation are such as would be anticipated by chemists. For, first, vermilion is well known to be of the most repellant or sluggish nature as regards any action on it by ordinary solvents, or even by corrosive fluids. Secondly, india-rubber, or the sulphurized or hardened india-rubber, termed vulcanite, is, as regards resistance to corrosion or solution, one of the most chemically obstinate of substances, and would well play the part, if necessary, of protector from chemical attack of any material well mixed in it. Thirdly, even if metals extracted sulphur from vermilion, at the low temperature of vulcanization, as they do at a far higher temperature, they would do so because of their great affinity for sulphur; hence would properly be expected to combine with the free sulphur mixed with the vermilion and india-rubber in preference to the sulphur already intimately combined with the mercury.

"6. The harmlessness of vermilion vulcanite should also be anticipated by medical practitioners, for it has been extensively used for the last fifteen years, and during that time hundreds of thousands of persons in Europe and America have worn, and are now wearing, pink and red vulcanite teeth-plates, and it is inconceivable that any wide-spread or even occasional harm resulting therefrom could elude the trained powers of observation of physicians and surgeons. The medical records, extending over many years, show that only three writers have ever suspected or regarded vermilion vulcanite as liable, in extremely rare cases, to be somewhat mischievous, and in these cases, that the fault lay with the vermilion, was not conclusively proved.

"7. Though however chemistry and medicine would concur in forecasting the innocuous nature of vermilion vulcanite, experimental evidence of its harmlessness should be most acceptable; for the integrity of a substance worn within the mouths of men and women in all civilized countries must be beyond suspicion.

"8. I am of opinion that vermilion vulcanite teeth-plates are practically unaffected by saliva, or by any substance which ever gains access to the mouth, and, in short, that the pink and red vulcanite artificial gums and palates now so generally worn are absolutely harmless."—*Pharm. Journal and Trans.*

Tayuyá; Dermophylla pendulina.

TAYUYÁ, or tayuiá, is the name of a vegetable drug, which has been employed for a very long time by the natives and physicians of Brazil, as a remedy in various diseases. *Tayuia de abobrinha* or *abobra* is the common name of the plant in question, which is *Dermophylla pendulina* Manso, nat. fam. Cucurbitaceæ-Bryonieæ, and whose synonymes are *Brianosperma ficifolia* Mart., *Bryonia ficifolia* Lam., *Bryonia tayuya* Velloso.[*] The root is the most active portion. It is said to be a most valuable remedy in malarious fevers, dropsy, syphilis, mental disorders, elephantiasis, skin diseases, etc. It has also been used with tolerable success externally, in form of a lotion, particularly in an affection common to Brazil, namely, an inflammation of the sphincter ani (bicho do cû), according to Rosenthal, in his Synopsis plantarum.

Stanislaus Martin states (in *L'Union pharm.*) that he had received specimens of the root in slices 5 cm. (2 inches) broad and 2–3 mm. (ab. ¼ inch) long. According to Martin's description, it does not seem to be much different from that of the European Bryonia root. He extracted from it a green resin (tayuyin); a citron-yellow fat, and brown extractive matter, both of very bitter, aromatic taste; tannin, pectin, traces of glucose, starch, and volatile oil; and he found the ash to contain magnesia, lime, alumina, potassa, and iron. He could find no alkaloid in it. Prof. Luigi Gabba, of Milan, extracted the root with alcohol, and obtained by evaporation a brown extract, of neither acid nor alkaline reaction, very stable, and drying up to an amorphous mass, which was only partially soluble in cold, but more so in boiling water. The latter solution, mixed with dilute sulphuric acid and heated, did not exhibit any remarkable change, but gave indications of glucose. As this reaction failed to make its appearance before the addition of the acid, Gabba concluded that the root contained a glucoside. Prof. Zenoni states, that on exhausting the root with ether and then treating it with acidified alcohol, he obtained a substance which appeared to give him the reactions of an alkaloid. Yvon, who subjected Martin's investigation to a control, found in it a wax-like resin, soluble in ether and chloroform, of acid reaction, greenish-yellow color and very bitter taste. Its melting-point is said to be at 49° C. (120° F.), and its solution in alkalies or ammonia developed microscopic crystals. This resin is said to be the active portion. An alcoholic tincture of the root deposited, after concentration, a small quantity of prismatic crystals, but they were devoid of alkaloidal properties.

The explorer Luigi Ubicini brought the root to Europe, and caused a strong tincture to be prepared from it, of the strength of 1 part dry root to 3 parts of 80 % alcohol. This was directed to be diluted with three times its weight of dilute alcohol before using, and this diluted tincture is used internally as *Tinctura Dermophyllæ diluta* in doses of 2 to 12 drops, 3 to 4 times a day. The *daily* dose should not exceed 24 drops. For external use in syphilitic or scrofulous skin diseases, it is to be diluted with twenty or thirty times its weight of water; although it may be used in concentrated form upon indurated glands. For hypodermic use 0.3–0.5 gm. of the tincture are to be diluted with water to 1 gramme, which constitutes one dose.—*Pharm. Centralh.*, 1877, 211.

An Easy Method for Approximately Determining the Strength of Acids or Alkalies.

DR. CARL JEHN, of Geseke, Germany, has published (in *Archiv der Pharmacie*, May, 1877, p. 414) a simple method for determining the percentage of acetic acid in vinegar, which appears to be applicable as well to other substances. The principle of the method is the old one, of decomposing a carbonate by the vinegar, but instead of estimating the carbonic acid by loss of weight, it is made to displace water, which is then measured.

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[*] The name Tayuyá, or Tayuiá, is not restricted to *Dermophylla pendulina*; it is applied to some other members of the gourd family (Cucurbitaceæ), as for instance: *Bryonia cordatifolia* Godoy, tayuiá de pimenta; abobra do Mato. *Wilbrandia hibiscoides* W., tayuiá de quiabo; abobrinha do Mato, etc.; see *Enumeração das Substancas Brazileiras que podem provomer a catarze; por A. L. P. da Silva Manso.* 8vo. Rio de Janeiro, 1838; p. 27, etc.—ED. N. R.

Into a glass jar, which is provided with a rubber stopper carrying a glass tube for conducting off the gas, is placed a quantity of sodium or potassium bicarbonate. Upon this is placed a small open vial, holding exactly 10 c.c. of the vinegar to be assayed, the stopper is inserted, and by shaking or inclining the jar, the vial is upset, thereby spilling the acid over the bicarbonate. The resulting gas passes through the glass tube into a vessel of water, and by the pressure which the gas exerts upon the surface of the water, it displaces a portion of the latter, which flows through an outlet into a graduated cylinder. The divisions of the latter are so arranged, as to indicate at once the percentage of anhydrous acetic acid.

[On the other hand, an apparatus of this kind could also be used to determine, approximately, carbonic acid in carbonates. The weighed carbonate being placed into the glass jar, a quantity of acid judged to be amply sufficient is placed into a beaker, the apparatus closed, and by shaking, the acid spilled over the carbonate. The cylinder receiving the water, however, would have to be graduated especially for this purpose.]

The Use of Terebine as a Surgical Dressing.

MR. H. S. WADDY reports in the *British Med. Jour.* his experience with the employment of terebine (oil of turpentine) in the dressing of wounds. A list of ten cases is given, in most of which capital operations were performed and the future dressing made with this substance. The cases did unusually well. His mode of applying the remedy in the case of an excised knee-joint is thus given:

"Bleeding having been stopped by torsion of vessels, the wound is washed with terebine and water (an ounce to the pint, the two being well shaken together); all bone-dust and blood-clot being removed and the skin of the limb cleansed, pure terebine is poured freely over the surface of the wound, and all crevices filled with it. The limb is placed on a common wooden back splint, with foot-piece properly padded, and strips of strapping fix the thigh, leg, and foot to the splint.

"The edges of the wound are adapted with the fingers, and strips of lint soaked in terebine (pure) are passed tightly round the limb to maintain them in apposition, plenty of terebine being poured between the surfaces of the wound. No ligatures or sutures are used.

"Cotton wool is applied outside the lint, enveloping the entire limb from toe to groin, and a bandage soaked in terebine outside the wool. The nurse is instructed to keep the outside bandage soaked in terebine, a small quantity dropped two or three times daily upon it sufficing for the purpose. A wound thus dressed may be left for weeks without a bandage or pin being removed. Before removal of the dressing it should be well soaked with terebine for three or four hours. This is done by slowly dropping the terebine all over the surface of the bandage. It is then removed carefully, layer after layer being divided with the scissors, and fresh terebine is poured on to moisten any parts which have become matted together, when they easily separate. I have never been troubled with any quantity of discharges; as a rule, the amount is practically nil. If the terebine be frequently applied, there is no unpleasant odor."

The advantages of this mode of dressing are these:

1. The patient never sees the wound; he is spared the anxiety caused by the anticipation of being dressed, and the bodily shock attendant upon the removal of dressings.
2. The wound is treated antiseptically.
3. The efforts of nature are not interfered with by accidental rough removal of dressings.
4. Perfect rest, the treatment for pain, is obtained.
5. Economy of time and labor for surgeon, assistants, and nurses, is secured.

On the Preparation of Neutral Tannate of Quinia.

THIS salt of quinia has been employed for some time, and forms a very eligible preparation, especially in the treatment of children, owing to its entire tastelessness. To obtain it, 1 part of quinia sulphate is dissolved in distilled water, by aid of diluted sulphuric acid, and the quinia is precipitated by a solution of soda. The washed alkaloid is then dissolved in 10 parts of alcohol, spec. gr. 0.828, and the solution mixed on the water-bath with a sufficient quantity of warm water, just short of causing any separation of quinia.

In another porcelain capsule 3 parts of tannic acid are dissolved in 60 parts of distilled water, the quinia solution is very gradually, and under assiduous stirring, added to this, and the contents of the capsule are heated on the water-bath for about 15 minutes. The whole is then transferred to a filter; the precipitate is washed with warm water, until the filtrate runs off colorless and free from bitter or astringent taste, and *particularly*, until it ceases to become cloudy on cooling. The tannate of quinia remaining on the filter is then dried. The warm solution, which has drained from the precipitate, deposits on cooling a tannate of quinia, which has a very marked bitter taste. Acid tannate of quinia, namely, subjected to a thorough washing with boiling water, is converted into the neutral tannate, which remains upon the filter.—P. J. HAAXMAN, in *L'Union Pharm.*, 1877, 135.

Malt Extract as an Emulsifier.

PROFESSOR GEO. F. H. MARKOE recently called attention to malt extract as an emulsive agent for cod-liver oils and other oleaginous preparations. At the present time, when cod-liver oil is extensively employed as a therapeutic agent, anything that will neutralize or overcome its disagreeable oily character and bad taste will be welcomed by patients. Extract of malt possesses the power of producing a perfect emulsion with cod-liver oil, and a mixture of equal parts of cod-liver oil and extract of malt was exhibited, having a semi-solid consistence, in which the taste of the cod-liver oil was more perfectly concealed than can be accomplished by any other known process.—*Boston Med. and Surg. Journal.*

Nitro-methane, Nitro-ethane, and Nitro-pentane.

THESE three names have been assigned by Victor Meyer to the three isomeres* of methyl nitrite, ethyl nitrite, and amyl nitrite, which he obtained by boiling the iodide of methyl, ethyl, or amyl with silver nitrite, and which appear to be bodies of great therapeutic importance. In view of the physiological and therapeutic importance of amyl nitrite, it might be expected that the isomeric nitropentane should be endowed with energetic properties. The investigations, however, of Schadow, of Strassburg, and Filehne, of Erlangen, have shown that it belongs to a class of bodies which, so far, are rather unmanageable in the hands of physicians. It acts like picrotoxin and codeia, producing epileptiform convulsions, proceeding, not from the spinal marrow, but from the medulla oblongata. It is altogether different in its action from amyl nitrite, and requires further study to ascertain if it can be used medicinally.

Of much greater use, however, promise to be the other two compounds, namely, nitro-methane or nitroëthane, both of which, in comparatively small doses, produce, according to Filehne, a state of insensibility against pain (analgesia or analgia). They arrest motion only in large toxic doses, and produce then a sort of paralysis which may be repeatedly induced. The diminution of sensibility progresses from the nerve-centres. If these symptoms, which so far have only been studied in animals, should also be found to occur when administered to man, the two bodies would be of extraordinary value in medical practice, as they leave the heart's action entirely unaffected. Perhaps they, or one of them, will turn out to be the long looked-for "absolutely safe anæsthetic," or at least a narcotic which may rescue many a victim from the demon of morphiomania. It is highly desirable that further careful clinical experiments on the action of nitro-methane and nitroëthane upon neuralgia and other painful affections be instituted.—TH. HUSEMANN in *Pharm. Zeit.*

Effects of Pilocarpine used Hypodermically.

FROHNMÜLLER finds that crude pilocarpine, a reddish-brown extract of weak alkaline reaction, imperfectly soluble in water, easily dissolved in alcohol, in pill form, 0.016 to 0.02. grm. (¼ to ⅓ grain), produces the same effect as an infusion of 5 grammes (80 grains) of jaborandi leaves, even in relation to the unpleasant after-effects. The muriate of pilocarpine, a crystalline substance of acid reaction, easily soluble in water, is, according to F., very well adapted to subcutaneous injections. He injected ⅙ to ¼ grain, and observed after a few minutes the well-known effects of jaborandi, profuse perspiration and salivation, disturbance of vision, particularly for near objects, nausea, and even slight vomiting, and finally transitory increase of frequency in pulse and respiration.

Pumpkin Seeds and their Active Principle.

THE nature and location of the active principle of the pumpkin seeds appears to have been determined by Heckel, of Nancy, who has published an interesting memoir on this subject. In the French drug trade pumpkin seeds are derived from *Cucurbita maxima*, *C. Pepo*, and *C. moschata*, which are equally serviceable against tape-worm, while the black seeds of *C. melanocarpa*, or the seeds of the closely related genus *Cucumis*, are entirely devoid of medicinal value, since the two latter lack the very membrane in which the active principle resides. The seeds of the three first-mentioned species differ chiefly in dimensions and color. Those of *C. Pepo* (pumpkin) are the smallest, having an average length of 6–7 millimetres, rarely as much as 20–25 mm.; they are oblong-ovate, have a groove along both edges, where they are thickened, and have a dirty-white color. The seeds of *C. maxima* are 18–25 mm. long, by 10–15 mm. broad, are regularly oval, and vary in color from white to orange. *C. moschata* has slightly smaller seeds, 16–22 mm. long, and 9–12 mm. broad, pure white, grooved, and the surrounding thickened edge of darker color. These three varieties of seeds consist of a perisperm made up of four coats, and an embryo with two thick oily cotyledons. The most external coat of the perisperm is an exceedingly fine membrane, constructed from a single layer of oblong cells, which imparts to certain varieties a characteristic silver-gray appearance. Below this lies the tougher *testa*, made up from singularly polyëdric, finely incrusted cells filled with starch. Both of these coats are removed by washing the *dried* seeds, while the washing of *fresh* seeds removes also the next two coats. The first of these—the third coat, counting from outside—is dirty-white, of a loose and spongy texture, and consists of spherical reticulated cells. The *fourth* and innermost coat, finally, which has a dark green color when fresh, changing gradually to greenish yellow, has a chartaceous appearance and consists of two layers: the outer one made up of hexagonal or pentagonal cells with moderately thick walls, including chlorophyll and

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* These three pairs of isomeric bodies form a good example to show, how two substances may have the same ultimate composition, and yet possess entirely different properties. The identity extends only as far as the percentage composition, the molecule of each substance being built up in an entirely different manner:

CH_3NO_2,	methyl nitrite, boils at	12°	C. (10° F.);	lighter than water
" "	nitro-methane, "	99°	C. (210° F.);	heavier "
$C_2H_5NO_2$	ethyl nitrite, "	16.5°	C. (61° F.);	lighter "
" "	nitroëthane, "	113°	C. (235° F.);	heavier "
$C_5H_{11}NO_2$,	amyl nitrite, "	96°	C. (205° F.);	lighter "
" "	nitro-pentane, "	155°	C. (311° F.);	heavier "

a resinous mass; the inner one formed by elongated cells, including starch. The resinous mass in the outer layer of the fourth or innermost coat of the seeds is, according to Heckel, the active tænicidal principle, and not, as has been supposed, the fatty oil residing in the cotyledons. Owing to the absence of this papyraceous membrane, which alone contains the resin, in other cucurbitaceous seeds, these latter are inert. At the same time it is shown that even active seeds become inert, when they are blanched in a fresh state, as *all* the coats are thereby removed.—From *Pharm. Zeit.*, 1877, No. 55.

Preparation of Emetia.

According to Lefort and Wurtz, the nitrate of emetia is so little soluble in water, that it may be made the starting-point for its separation from any fluid preparations of ipecac. A concentrated watery solution of the extract, or the fluid extract, previously deprived of alcohol, and concentrated, is mixed with a saturated solution of potassium or sodium nitrate, whereby a resinous mass is thrown down, which consists of nitrate of emetia. This is removed, washed with water, dissolved in alcohol, and the solution poured into milk of lime. The mixture is evaporated to dryness, powdered, and exhausted with ether, which, on evaporation, leaves behind the alkaloid, generally of a yellowish color. This is taken up by dilute sulphuric acid, and reprecipitated by ammonia, when it is obtained colorless. The authors have re-examined the constitution of the alkaloid, and find it to correspond to the formula: $C_{28}H_{40}N_2O_5$.—*Répert. de Pharm.*, 1877, 385.

The Poison of Small-Pox.

In the session of the French Academy of April 30th, Messrs. Pasteur and Joubert made an important communication on the nature of the poison of small-pox (hæmorrhagic variety). They have succeeded in propagating the bacteria, which are contained in the blood during this disease, outside of the living organism, in "dead" liquids; and they found that their vitality remained unimpaired, even after repeated transplantation. Such an infected solution may be filtered by means of appropriate apparatus, and completely freed from bacteria, so as to become entirely inert. During the artificial propagation of these bacteria in clear solutions, no microscopic granulations appear to be formed, at least, even under the most powerful lens, no organized or amorphous substances can be traced outside of the bacteria. These facts make it highly probable that the poison of small-pox is a bacterion, and not a virus.—*Ber. d. Deutsch. Ch. G.*, 1877, 1171.

Recovery of Gold from Solutions.

An easy method to recover gold from solutions, particularly from old toning-baths of photographers, has been made known by Fr. Haugk. It consists in filtering the solution into a white glass flask or bottle, making it alkaline with sodium bicarbonate, and then adding, drop by drop, a concentrated alcoholic solution of aniline red (fuchsine), until the liquid retains a deep strawberry color. The flask is then exposed to the sunlight for six or eight hours, at the end of which all the gold still present will have been precipitated as a dark violet powder, and the liquid will have become colorless. After pouring off the liquid, the flask, with its precipitate, is kept until a fresh quantity of solution has to be precipitated, and this is continued until the deposit in the flask is sufficiently large to make it worth while to remove it. It is then transferred to a filter, washed, dried, and burned with the filter. The residue, containing the filter-ash, is dissolved at a gentle heat in aqua regia, filtered, and the solution evaporated to dryness. The quantity of impurity caused by the simultaneous solution of the filter-ash is too insignificant to be objected to.—*Pharm. Centralh.* fr. *Phot. Arch.*

Glycerole of Phosphorus.

Mr. Chas. Ménière criticises the method heretofore employed for preparing the glycerole of phosphorus, as being imperfect and unreliable. The method consisted in heating the glycerine and dissolving phosphorus in it. Frequently, however, there appears, when the solution cools, an opalescence and a deposit, which is due to a separation of phosphorus. To prevent this, he recommends to use phosphorus in a finely divided state, which may be obtained by mixing it with a substance soluble in glycerine itself. Sugar or gum-arabic are probably best adapted for this purpose. Either of these, in powder, is mixed with a little glycerine, to obtain a mixture of the consistence of honey. This is heated on the water-bath, the phosphorus is added, and intimately incorporated with it. Then the remainder of the glycerine is added, first in small quantities at a time, and care is taken that the temperature does not exceed 50° C. (122° F.). Dorvault in his *Officine* recommends to make a solution containing 0.10 gm. of phosphorus in 100 gm. of glycerine. The author, however, thinks that Reveil's formula is preferable. This contains 0.10 gm. phosphorus in 1,000 gm. of glycerine, and is much better borne by the stomach, even in equivalent doses, than the former.—*Répert. de Pharm.*, 1877, 354.

Camphor-Vapor Baths.—These baths are used with very good effect—so it is said, in the Queen's Hospital, Birmingham—for the relief of Bright's disease. They are also said to produce very free perspiration, and are given every evening in the following manner: The patient is seated upon a cane-bottomed chair, with a large blanket pinned around his neck. Half an ounce of camphor is placed upon a tin plate under the chair, and above the flame of a small spirit-lamp, by the heat of which the camphor is slowly vaporized. This plan of treatment is also employed in some cases of convalescence from acute or sub-acute rheumatism, when the action of the skin is defective, and when some pain and stiffness of the joints remain.

RECENT PAPERS.

American Journal of Pharmacy.

July. F. V. GREENE: "Extraction of Caffein from Guarana." [The author, a surgeon in the U. S. N., finds that Wayne's process to extract caffein from coffee and tea by means of litharge is equally applicable to guarana. One part of this is intimately mixed with three parts of fine litharge, and the mixture boiled with distilled water until, on interruption of the boiling, the insoluble portion is seen to subside rapidly, leaving the supernatant liquid clear, bright, and colorless. About one pint of water is required for every 15 gm. of guarana. The liquid is removed by filtration and the residue washed on the filter with boiling water. H_2S is then passed through the filtrate to remove the small quantity of lead in solution, the liquid again filtered, heated to expel H_2S, and filtered from the precipitated sulphur. On concentrating the liquid, caffein crystallizes out. Average yield 5 per cent. The author also points out that the correct accentuation of the word in Brazil is guaraná.]

J. U. LLOYD: "Hypophosphite of Berberina." [The author states that this is a much more soluble salt than any other of berberina. Preparation: Heat a watery solution of berberina sulphate at 180° F. with litharge for 6–12 hours. The sulphuric acid then unites with lead. Filter off the liquid (the alkaloid is very soluble in water), remove excess of lead by H_2S, and filter again. Evaporate to a small bulk, add solution of hypophosphorous acid in slight excess, and cool. Remove the magma of fine crystals and dry them.]

L. GENOIS: "Emulsion of Oil of Turpentine (and other essential Oils)." [The author's process is as follows: Place 10 grains of perfectly dry, finely-powdered soap into a round-bottomed mortar, add one ounce of the oil by degrees with constant trituration; when well mixed, transfer to a bottle, add one-half oz. water, shake vigorously; add a little more water, and shake again. This makes a very white emulsion, which will not separate.]

C. L. DIEHL: "Spirit of Nitrous Ether." [From this lengthy paper we abstract for the present only the results arrived at: 1. It is possible to obtain the quantity of distillate required by the U. S. Ph. 2. It is, however, not necessary to obtain the full quantity prescribed, as towards the end nothing but undecomposed alcohol is carried over. 3. The specific gravity of Spiritus Ætheris Nitrosi U. S. Ph., if it contains 5 per cent. of pure nitrous ether, is 0.8235, and not 0.837. 4. The preparation, if made according to the U. S. Ph., cannot contain more than 4.1766 per cent. of absolute nitrous ether (C_4H_5O,NO_3 or $C_2H_5NO_2$). 5. The method of the Brit. Ph. for determining the strength of the preparation in nitrous ether—by means of a saturated solution of calcium chloride—can be applied to the product of the U. S. Ph., and gives uniform results.]

Archiv der Pharmacie.

June. E. HEINTZ: "Analysis of Cacao and Chocolate." [From this essay we only select the author's method for ascertaining the purity of the cacao fat. He found ether to be the best test (see G. Ramsperger's paper, NEW REM., vi., 37); one part of the fat is shaken with three parts ether at 11–12° C., taking care not to heat the test-tube with the hand. Pure cacao fat, and such as contains up to 10 per cent. tallow, dissolves thereby; but in the latter case the tallow soon separates again.]

G. MANKIEWICZ: "On Soluble Ferric Hydrate." [Ferric hydrate, Ferri oxydum hydratum, may be obtained, according to the author, of a much more soluble condition than by any other process, as follows: After the solution of ferric chloride or sulphate has been precipitated by ammonia, the magma is first washed by decantation, then thrown on a strainer and exposed for twenty-four hours to a cold of about 5° C. (23° F.), so that it may thoroughly freeze. It is then brought into a warm room, and the water allowed to run off, as the ice melts. The remaining ferric hydrate needs no pressing, and is instantly soluble in acetic and other acids.]

E. SCHMIDT: "On Veratria." [The author has reinvestigated the ultimate constitution of this alkaloid, and finds it to contain $C_{32}H_{50}NO_9$, with which formula his figures remarkably well agree. Neither the sulphate nor the muriate is crystallizable.]

F. A. FLÜCKIGER: "On the Saponin of Sarsaparilla." [The author suspects that there is a whole series of "saponins," constructed after the formula $C_nH_{2n-10}O_{18}$, where the lowest term for n is 32. Flückiger proposes to retain the name of *parillin* for the principle obtained from sarsaparilla. He gives a new method for its extraction, and proves it to be a glucoside.]

Pharmaceutical Journal and Transactions. Nos. 365–369.

BALMANNO SQUIRE: "The Fixed Oil of Stavesacre." [This is a specific parasiticide for pediculus capitis, p. corporis, p. pubis, and acarus scabiei. Mr. Squire first used an ointment prepared from the seeds, but, owing to its unsightliness, later selected the oil of the seeds, extracted by ether or better by simple expression. It is colorless and odorless, and non-irritant, an important advantage it possesses over sulphur in the treatment of itch.]

D. HOWARD: "On the Distribution of the Alkaloids in Cinchona Trees."—The author has found that 'renewed' bark of *Cinchona succirubra*, and *C. officinalis*, and the root-bark of the latter, contain much larger quantities of quinidia than the natural stem-bark. The receipt of a lot of recent Darjeeling barks, comprising root, stem, and branch bark *from the same trees*, enabled the author to compare the relative quantities of alkaloids. The root-fibre was found to contain even a larger percentage of quinidia than the root itself.

Barks of	Branch.	Stem.	Root.	Root-Fibre.
Total alkaloid.......	3.3	5.5	7.6	2.0
Composed of				
Quinia..............	23.5	20.2	11.5	13.0
Quinidia............	0.6	0.6	2.9	11.4
Cinchonidia.........	25.3	23.6	19.9	11.7
Cinchonia...........	19.4	32.8	47.3	46.7
Amorphous...........	31.2	22.8	18.4	17.2

JUL. MOREL: "The Turpentines and Resinous products of the Coniferæ." (See next number.)

W. DYMOCK: "Notes on Indian Drugs." [*Polypodium quercifolium*, local name Kadic Pan, or Kali Pandan. Used as an alterative in malarious fevers.—*Prangos pabularia*, local Faturasaliyun, vulgar Phuttersalum. The seeds are used as a carminative and abortive.—*Aconitum* (probably *palmatum*), local Wakma or Bikhma. The tuberous roots, resembling those of *A. Napellus*, have a pungent smell like nasturtium, when soaked in water. In doses of two grains, said to stop vomiting and purging, and to allay pain in the abdomen.—*Naregamia alata*, local Tinpana or Kapur Bendhi. This is the country ipecac or Trifolio of the Portuguese at Goa. The root has a pungent, aromatic odor, and is used as an emetic in doses of 12–18 grains.—*Methonia superba*, local Vindai or Nagkaria. The tubers are an alterative tonic and antiperiodic.—*Tribullus terrestris*, local Chota Gokhrov. The fruit is valued as a diuretic.—*Polypodium vulgare*, local Basfaij. The dried rhizome is aperient and deobstruent.—*Melia superba*, local Kala Khajur, or Kurroo Khajur (= black date, bitter date). The fruit has a nauseous, bitter taste, and is a favorite remedy in colic; half a fruit—one dose—is said to remove the pains effectually.]

Archiv der Pharmacie.

May. O. HEHNER: "Determination of free Sulphuric Acid, etc., in Vinegar." [Since vinegar, unless it is distilled, contains not only acetic acid and water, but also potassium and sodium salts with organic (tartaric or acetic) acids, besides sodium chloride, it is self-evident that sulphuric or hydrochloric acid, if added in small quantity to the vinegar, do not remain free, but decompose an equivalent quantity of acetate or tartrate. Now, as the organic salts are converted by ignition into carbonates, it follows, that no mineral acids had been added, if the ash of a vinegar is alkaline, If, however, the reaction of the ash is neutral, it is highly probable that mineral acid has been added. This fact may be employed in practice to ascertain the presence or absence of mineral acids. Example: 50 c.c. of vinegar are mixed with 25 c.c. of $\frac{1}{10}$ normal solution of soda (capable of neutralizing 0.200 per cent of SO_3), the mixture is evaporated to dryness in a platinum capsule, and the residue is ignited at as low a temperature as possible. It is not necessary to produce a white ash. To this are now added 25 c.c. of $\frac{1}{10}$ normal sulphuric acid (which exactly correspond to the previously added 25 c.c. of soda solution), the solution is heated until all carbonic acid is eliminated, filtered, and, after adding a few drops of solution of litmus, the amount of acid present in excess is determined by titrating with $\frac{1}{10}$ normal solution of soda. The quantity of the latter consumed gives directly the amount of free mineral acid in the vinegar, for 100 c.c. of the soda solution correspond to 0.49 grm. of sulphuric acid.]

J. BROEKER: "How much Quinia and Cinchonia are contained in Decoctions of Cinchona Bark, which are prepared from 1 oz. of Bark and 12 oz. of Water, boiled down to 8 oz.?"—The author found the following quantities:

Decoct.	Cinch.	pallidæ		0.12	Cinch.	trace	Quinia.
"	"	"	+ 2 3 HCl	0.31	"	1.15	"
"	"	"	"	0.41	"	0.31	"
"	"	flavæ	"	trace	"	0.20	"
"	"	"	+ 2 3 HCl	0.31	"	1.15	"
"	"	rubræ		0.20	"	0.60	"
"	"	"	+ 2 3 HCl	0.90	"	1.18	"

E. REICHARDT: "Estimation of Glycerine in Wines." [Pasteur's process, to treat the residue left after evaporating wine with a mixture of alcohol and ether, whereby glycerine and succinic acid are dissolved, is modified by the author as follows: The extract of wine is at once mixed with slaked lime in *slight* excess. This converts succinic acid and sugar into calcium-compounds which are insoluble in alcohol. The mixture is dried and boiled with 90 per cent. alcohol, which leaves on evaporation the glycerine quite pure and almost colorless, even in the case of red wines.]*

DR. C. JEHN: "Determination of Acetic Acid." (See p. 234.)

EDWARD JOHANSON: "Determination of the Alkaloids in Cinchona Bark." (See next number.)

Journal of the Chemical Society. June.

M. M. PATTISON MUIR: "On the Solvent Action of various Saline Solutions upon Lead." [From the results obtained by the author we quote a table representing the *solubility of lead (hydro-) carbonate*, $2\,PbCO_3.Pb(HO)_2$ *in various dilute saline solutions at ordinary temperature.*

Solution of	Grammes of salt per litre.	Solubility of Lead Salt.	
		Experiments made in closed flasks.	Experiments made in open beakers.
Ammonium sulphate.....	0.20	1 in 32,000	1 in 43,000
Potassium nitrate.......	0.20	1 " 26,000	1 " 43,000
Calcium chloride	0.20	1 " 23,000	1 " 26,000
Ammonium nitrate......	0.20	1 " 4,600	1 " 26,000
Water saturated with CO_2	....	1 " 4,300	1 " 4,300

F. W. PAVY: "Sugar a Normal Constituent of Urine." [The results of an examination of many samples of urine from healthy individuals, from which all those were first excluded which gave the faintest coloration with Fehling's solution (that is, which undoubtedly contained sugar), seem to prove conclusively, that a small quantity of sugar is a normal constituent of urine: about 0.565 grains in 1 pint, or about 0.05 gm. in 1 litre.]

Schweizerische Wochenschrift f. Pharmacie. Nos. 17–28.

———: "Phenol-Camphor as an Application." [Upon 12 grammes of camphor an alcoholic solution of 2 grammes of carbolic acid are poured, and when solution has taken place, pieces of lint are moistened with it and applied in a number of layers to the affected part. The whole is covered with a piece of mackintosh or rubber to prevent evaporation. It is a substitute for Lister's dressing, allays pain, and has been used with the happiest results.]

C. W. STEIN: "Remarks on Hard Glass." [Commenting upon an article on French hard glass printed in the journal, the author says that he has used capsules of hard glass for some time past, for preparing decoctions over a naked flame.—The hard glass industry appears to have made more progress in France and Germany than in England or in the United States.—ED. N. R.]

Pharmaceutische Zeitung für Russland. Nos. 8–10.

TH. ROSENBLADT: "On the Assay of Ethyl Nitrite (Nitrous Ether)." [The author's process consists in converting the ethyl nitrite into ammonium nitrite, which on heating is converted into nitrogen and water ($NH_4NO_2 = 2H_2O + N$). The nitrogen is received in a gasometer, whence it is transferred to the eudiometer and its quantity measured under the usual corrections. The process is, however, not easily applicable in practice, at least by pharmacists, as it requires considerable skill and experience.]

J. BIEL: "On the Commercial Chlorine-Derivatives of Alcohol." (See next number.)

E. HIRSCHSOHN: "On Calcium Phosphate." [The author has made extended researches as to the best method of preparing medicinal calcium phosphate which would be: 1. crystalline; 2. of uniform and constant composition; 3. easily soluble in dilute acids, especially in the stomach; and 4. the largest possible quantity which could be obtained from the materials employed. His end-results are as follows: The salt should be prepared by double decomposition of calcium chloride in excess by sodium phosphate, so that only about one-half of the calcium chloride is decomposed. 100 parts of anhydrous calcium chloride are dissolved in 400 parts of water, and 187 parts of sodium phosphate (Na_2HPO_4, $12H_2O$) in 5,610 parts of water, and the latter solution added, not too slowly, to the former, at *ordinary temperature;* the precipitate is immediately transferred to a filter, washed, and dried at 30–40° C. The product is a very light powder of the composition $CaHPO_4$, $12H_2O$.]

Pharmaceutische Zeitung. Nos. 43–56.

"Analysis of 'Liebig's Kindermehl' and 'Nestlé's Farine lactée'—Liebig's Food for Infants, and Nestlé's Lacteous Farina." [J. Mouton and Zonen, Hague, publish the following analysis:

	Nestlé's Farina. I.	II.	Liebig's Food.
Water..............	7.94	7.16	14.0
Ash................	1.61	1.64	3.0
Fat................	4.61	4.84	not determined.
Glucose............	9.81	8.01	2.06
Saccharose.........	44.19	41.55	6.10
Starch.............	12.31	12.10	64.00
Nitrogen...........	1.08	1.02	1.55
Albuminoids........	6.52	6.17	9.65

The report does not state why the first two analyses sum up only 88.07 and 82.49 respectively.]

E. GRAUER: "Easy Determination of Specific Gravity." [Recommends to use, in place of a spec. grav. bottle, a pipette, previously gauged with distilled water and marked with a line. At the upper end a small rubber tube with pinchcock is attached, by means of which the liquid is sucked up to the mark. It is then suspended in the balance and weighed. It may be made as small as desired, and is particularly useful for taking the spec. grav. of small quantities of essential oils.]

A. JANSSEN: "On Manna." [The author, who lives in the manna district of Italy, in the course of an interesting article on its production, mentions that upon the manna-ash, *Fraxinus Ornus*, Italian *orniello*, large quantities of cantharides are collected, which makes the tree of double value for collectors of drugs.]

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* A good method of separating and estimating glycerine in pharmaceutical preparations, as for instance, in fluid extracts, is a great desideratum. We hope that somebody will take up this question and solve the problem.—ED. N. R.

FRISTEDT: "Aloe-cultivation on the Island of St. Barthelemy." [Aloe-cultivation on this island, a Swedish possession in the West Indies since 1784, is increasing. The expressed juice of the leaves of Aloe vulgaris is boiled down, and the product is sent to Barbadoes, where it is mixed with the middling good sorts. Many other West Indian islands likewise produce aloes, which all goes to Barbadoes.]

Répertoire de Pharmacie. Nos. 11–13.

CATILLON: "On the Use of Glycerin in Connection with Pepsin." [The author advises to extract pepsin by means of glycerin, or at least to administer it in solution mixed with glycerin, as the latter not only prevents its alteration, but also increases its digestive power.]

CAZENEUVE AND CAILLOL: "On the Extraction of Cinchonia." [The authors propose to obtain cinchonia, not as a by-product in the manufacture of quinia, but directly from gray Loxa bark, which is very rich in cinchonia, by exhausting it in their apparatus figured on page 108. The powdered bark is mixed with its own weight of slaked lime, the mixture is packed into the displacer and exhausted with commercial ether. On evaporating off the latter a residue of a yellowish white color is left. This is taken up by boiling alcohol and treated with a little animal charcoal, when it will, on evaporation, leave crystals of pure cinchonia. Cinchonia is ordinarily but little soluble in ether; but under the above conditions, when extracted by lime from the vegetable tissue, it is dissolved by it. Alcohol or chloroform are inconvenient, as they dissolve too much of the coloring matter.]

J. LEFORT and F. WURTZ: "On the Preparation of Emetia." (See p. 237.)

Liebig's Annalen der Chemie. 188, 1. 2.

WILH. v. MILLER: "On the Chemical Compounds in Liquid Storax." [Besides the bodies previously known to exist in storax, viz., *styrol*, *cinnamic acid*, and *styracin*, the author has proved the existence therein of the following bodies: A considerable quantity of phenylpropyl cinnamate ($C_{18}H_{18}O_2$); ethyl cinnamate ($C_{11}H_{12}O_2$) in small quantity; a very small quantity of a substance having the odor of vanillin, and forming a crystalline compound with sodium bisulphite; a small amount of a resinous unstable body; very considerable quantities of two alcohol-like bodies—α and β storesin; cinnamic ethers of the latter; and a sodium compound of storesin in very small quantity.]

Berichte der Deutschen Chemischen Gesellschaft. Nos. 10–12.

L. BRIEGER: "On the Volatile Constituents of Human Fæces." [Showing that the normal intestinal digestion consists mainly of a putrefaction, primarily induced by the decomposing action of the pancreatin upon albumen and gelatin. The author has found in the distillate from fresh fæces the following substances: acetic, normal butyric and iso-butyric acids; phenol, indol, and a new body, named *skatol*, crystallizing in white laminæ, and possessing a most disagreeable, specifically fæcal odor.]

Pharmaceutische Centralhalle. Nos. 21–26.

"Danger of Fire from Zinc-dust." [Zinc-dust is an article employed by dyers, chiefly as a reducing agent, and consists of about 40 per cent. of zinc, 2½ per cent. lead, 4 per cent. cadmium, 50 per cent. zinc oxide, 3½ per cent. zinc carbonate. This is a dangerous substance when damp or wetted, as it is capable of decomposing water and setting fire to the liberated hydrogen. A case of fire on board the steamer Lord Clyde has drawn attention to this dangerous substance.]

S. SIEBERT: "On Dialyzed Iron." [In the course of his remarks the author suggests that there is probably no specific difference between a solution of ferric chloride saturated with ferric oxide, and a solution of dialyzed iron. Incidentally he remarks that it is above all necessary to *wash the precipitated ferric oxide until every trace of foreign salts has been* removed; otherwise the product is liable at any time to gelatinize.]

ORIGINAL COMMUNICATIONS.

SODA-WATER APPARATUS.

PRACTICAL HINTS CONCERNING ITS SELECTION AND MANAGEMENT, AND SUGGESTIONS AS TO THE BEST METHODS OF MAKING AND DISPENSING CARBONATED BEVERAGES.

(Concluded from page 211.)

Some years ago an intelligent gentleman had occasion to call, early in the morning, at a prominent Broadway pharmacy. Standing near the large and showy soda-water apparatus, which formed one of the principal features of the store, he chanced to observe some drops of a green liquid on the marble counter, under one of the syrup-faucets. Somewhat surprised, he innocently inquired, "What green syrup is this? Something new?" "Oh, no," replied the clerk, "that's lemon. It's always green in the morning, after standing all night." The clerk did not think it necessary to further explain that this beautiful green tint was due to poisonous contamination from the copper tank and brass faucets in which the syrup was contained! Such was the fact, however, and cases as bad as this are still unfortunately too common. The danger of metallic poisoning from the apparatus for dispensing soda-water lurks in precisely those parts which it is the most difficult for the purchaser to examine and judge of, and even a careful and intelligent druggist cannot reasonably be expected to detect all the objectionable features of an apparatus "made to sell," unless he has had some such thorough and impartial exposition of the subject as we are about to give the readers of NEW REMEDIES.

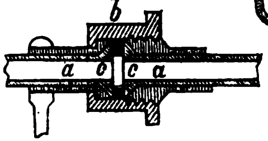

FIG. 1.

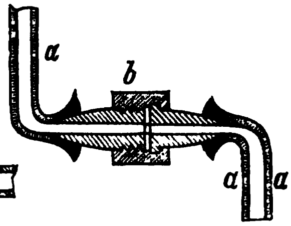

FIG. 2.

Even in conveying the carbonated water from the fountain to the cooler there is ample opportunity to contaminate the beverage. In the West and South, incredible as it may appear, lead pipe is not infrequently used. This, of course, is highly objectionable and should not be tolerated for a day. Tin pipe, lead-encased, serves a much better purpose, but block-tin pipe is really the only kind that should be employed. Lead and lead-encased tin resemble each other so much that a tricky manufacturer or repairer may easily palm off the inferior article for the better one. Furthermore, the difference in cost is so slight that the use of the cheaper pipe involves no saving to the purchaser, and the manufacturer who adopts or recommends the tin-lined pipe is thereby convicted of a parsimoniousness that augurs ill for his apparatus. Insist, therefore, upon pure, solid block-tin pipe, which speaks for itself, and cannot be tampered with by any tricky plumber. Besides, it is more durable than the other kind and, most important of all, it is impossible for it to impair the purity of the soda-water under any circumstances.

The use of block-tin pipe, however, is not the only point to be insisted on. Particular attention should be paid to the "couplings" by which the pipe is attached to the fountain, passes into the dispensing apparatus, and enters and leaves the cooler. These are made of brass, and are usually soldered to the pipe, and the inner surface of the coupling, even when tin-washed, soon begins to taint the water standing in it with a pernicious mixture of copper and zinc. This is best guarded against by running the pipe (Fig. 1, *a*), clear through the couplings (*b*), and melting the tin down to fill a bevelled hollow (*c*) in the end of the coupling. Fig. 1 shows how this is done, and Fig. 2 illustrates the common and objectionable method of merely soldering the pipe and the coupling together. The absence of solder at this point of junction, and the appearance of the tin at the opposite end, are signs by which the most inexperienced purchaser may know that the couplings can be relied on not to injure the beverage. It will not do to neglect this point, however trifling it may seem, for all the water used passes through these couplings, generally with considerable rapidity, and the wear is much greater, and, if the poisonous surfaces are tin-covered, much more deleterious than the wear upon a corresponding area of poisonous surface in the fountain.

We have now brought the water safely to the dispensing counter, and introduced it into that more or less ornamental external marble shell, which is the only part of the apparatus that the public is at all familiar with, and too often the only part that the druggist is solicitous about or willing to pay liberally for. Beginning our inspection of this at the base, we find a wooden bottom designed to support the weight of the cooler and the ice. This should be of chestnut or some other durable wood, and should not be merely screwed to the marble, but supported by metal brackets in the corners of the marble case, or, better still, by double brackets sufficient to hold the bottom securely in place, even without any screws in it. The use of pine or other soft wood in an apparatus of any pretensions is a sure sign of questionable work.

On this bottom rests the metal ice-receiver, separated from the marble by a refrigerating air-space. The quality most essential to this receiver is strength sufficient to resist the pressure of the ice, even when rudely and hastily thrown in; iron and steel cannot be used, as they would rust, and copper is therefore generally employed. As this metal is rather expensive, there is a temptation to make the receiver thin, and brace it with strips of wood between the receiver and the marble. This is a poor makeshift, however, a much better and yet not expensive plan being to make a stout zinc receiver and strengthen the lower part, where the strain is greatest, by placing it in a snug-fitting copper tray, some inches in depth.

This receiver is not only an ice-chamber, but contains, besides, two of the most important parts of the apparatus —the coolers and the syrup-tanks. The two great requisites in soda-water coolers are perfect protection from metallic poisoning, and such a form and position as shall secure the maximum of refrigeration with the minimum amount of ice. As to form, they may be either coils or cylinders, or a combination of the two. The simplest is a single cylinder. All cylindrical coolers are made of copper, as iron or steel would rust, and the other metals are too weak or too expensive. These coolers are often tin-washed, although all the objections, heretofore rehearsed, to tin-washed copper fountains apply with equal force to the tin-washed copper cooler. The only safe cylindrical cooler has a lining of pure sheet-tin, entirely distinct from the copper which encloses it. In the best of these the copper jacket is made in two halves, put over the tin and soldered around the middle, leaving a loose joint in the copper where the pipe enters or leaves the tin cooler. This loose joint could not be left in a tin-washed cooler, and is therefore proof positive that the cylinder is properly lined. If it is soldered, you will have to rely on the statements of the manufacturer or his agent as to the "true inwardness" of the cooler.

A single large cylinder, though simple and easily made, is not the most effective or economical cooler. If of large diameter, the inner portion of its contents is but little affected; if of greater length, more ice must be used to keep it covered. This is supposing it to be in an upright position; placing it horizontally is an improvement, and the employment of several small cylinders instead of one large one is still better. The extension of this principle naturally leads to the pipe-coil, which is merely a cylinder of very great length and very little diameter. Block-tin pipe is, of course, to be used for this purpose, for reasons already specified. For a long time even the best manufacturers made these coils with closely-laid pipes, and, thus made, it was an open question whether coils or cylinders yielded the best results. Theoretically, the ice, as long as any of it remained unmelted, rested directly upon the coil and kept it constantly covered. Practically, however, the refuse in the ice settled in the furrows between the pipes and formed a non-conducting layer; this checked the melting along these lines so that the more rapid melting over the intermediate, uncovered spaces, tended to hollow out channels and produce the effect illustrated in Fig. 3, where it will be seen that the ice (*a*) rests on the deposits of refuse (*b*, *b*, *b*), and is actually nowhere in direct contact with the pipes (*c*, *c*, *c*). This very undesirable state of things can only be prevented by taking special pains to wash out the receiver as often as twice or thrice a week, and clean the refuse off the pipes thoroughly with a brush or whisk-broom. All this trouble can be avoided, however, and much better results attained by using the "interspaced" coil, shown in Fig. 4. Here it will be seen that the refuse drops between the pipes (*c*, *c*, *c*), and the ice in melting adapts itself to the shape of the coil and closely embraces nearly or quite half of its surface. Experience goes to prove that this coil produces the very best refrigerating effects with the most economical use of ice—points of prime importance to the drinker's palate and the dispenser's pocket. The objection to cylinders, however, provided always that they are tin-lined and not tin-washed, is merely one of economy, as excellent results may be attained with them by the lavish use of ice. In the best (or so-called helical cylinders) the water is so introduced as to flow through them in a spiral current, thus producing a more thorough and uniform cooling.

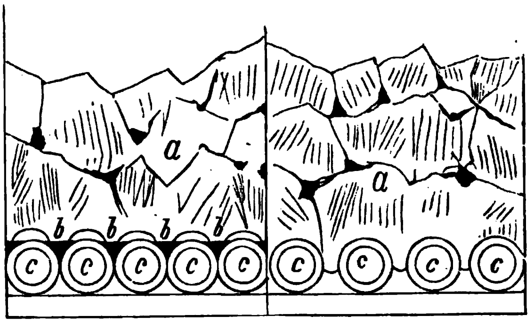

FIG. 3. FIG. 4.

The adoption of coils in preference to cylinders was materially hindered for some time by the fact that the gas has a tendency to separate from the water, collect in the upper part of the cylinder or coil, and then rush out when the draught-arm is turned, causing a great waste of gas with consequent deterioration of the beverage, and a jerky sputtering and highly unpleasant flow of the water. There seemed to be no remedy for this when coils were used; but it was found possible to prevent it to some extent with coolers of the other form by running a curved pipe from the draught-arm to the water in the bottom of the cylinder, and then providing a vent-valve to draw off the excess of gas in the upper part thereof. This way of meeting the difficulty was awkward, expensive, and ineffective. The sputtering was only partly avoided; the waste of gas was not at all checked; the vent was liable to leak and could only be used at random, as there was no means of telling how much gas the cooler contained. Not only was the pungent quality of the beverage greatly impaired by the actual loss of gas, but the refrigerating process was also materially interfered with by the interposition of a volume of gas between the ice and the decreased volume of water in the cooler. This, in turn, aggravated the primary evil, as carbonated water gives up its gas the more freely the warmer it is. This vexatious state of things appeared for a long time to be incurable, but the whole trouble was at last done away with by one of the simplest and most effective devices in the whole range of mechanical apparatus. This contrivance, invented about four years ago by Mr. Thomas Warker, of this city, merely consists in punching a number of small holes in the upper portion of the bent-pipe running from the bottom of the cylinder to the draught-arm. Fig. 5 shows a cylinder (*a*), under the old system, more than half filled with gas (*b*), which escaped through a pipe (*c*), in connection, but not in combination, with the water, thereby causing the sputtering, or else was drawn off through the vent-valve (*d*). In Fig. 6 the same cylinder is shown with the small holes (*e, e*) serving as a vent. Through these the gas escapes in minute portions whenever the water is drawn, mixing evenly with it, and thus not only causing it to flow smoothly and regularly, but greatly increasing its pungency.

In the best apparatus now made, a small cylinder, containing a bent pipe pierced as in Fig. 6, is placed between the interspaced coil and the draught-arm. This "steady stream" attachment, as it is called, cures the sputtering, and thus economizes the gas and improves the quality of the water; it prevents all interference with the refrigerating process, and thereby improves the water still more; and it also obviates completely the necessity for the vent-valve. Perhaps the puncturing of a few little holes never accomplished a more useful result since the genius of mankind first began to expend itself in mechanical invention. The cylinder containing the "steady stream" pipe serves a good purpose as an auxiliary reservoir of cooled water, the coil sometimes not containing enough to supply a rapid succession of customers. The making of the cylinder in two separate shells of copper and tin, with a slight air-space between, improves it for maintaining the degree of cold obtained in passing through the coil, although this construction is somewhat disadvantageous in cylinders used directly for cooling purposes. Where several beverages are dispensed, the soda-water cooler should be placed in immediate contact with the ice, as a high degree of cold is more desirable with this beverage than with ordinary mineral waters.

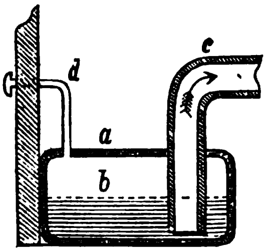

FIG. 5.

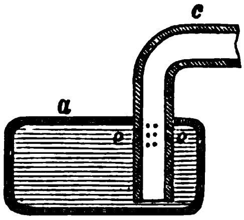

FIG. 6.

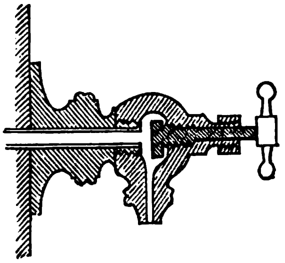

FIG. 7.

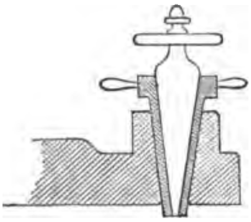

FIG. 8.

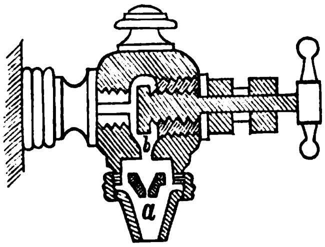

FIG. 9.

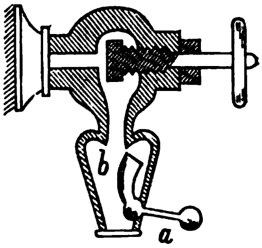

FIG. 10.

We come now to the draught-arm or faucet, through which the beverage is discharged from the cooler into the tumbler. As to material, the thing to avoid is tin-washed brass thinly plated with silver. Solid tin is the only permissible metal for the interior, while bronze, heavily silver-plated, is decidedly the best for the outside. In construction, the compression faucet (Fig. 7) is at once the simplest, most durable, and most efficacious. The common plug-faucet (Fig. 8) has found favor in some quarters, especially with inventors who have sought to draw both water and syrup from the same arm, thus avoiding the necessity of moving the tumbler. Such devices, however, are too complicated for advantageous practical use, and the rubbing together of the two large surfaces of brass involves a constant wearing off of metallic particles, not only defiling the water, but soon causing leakage. One manufacturer gravely directs that the plug be rubbed well with tallow, to reduce this wear! The unctuous green particles likely to appear in the tumbler now and then, under this system, would hardly be relished by the drinker, however much "green fat" may be prized by turtle-loving epicures. In some cases an extra shell is inserted between the plug and the outer shell, thus giving four wearing surfaces of poisonous metal. As to shape and size, the draught-arm should be as short and straight as possible. "Goose-necks" are more graceful, but they necessarily contain a certain portion of water which loses its coldness if it stands for any length of time, and a picturesque draught-arm is no adequate equivalent for half-cooled soda-water. Not only is the water in the arm heated, but more or less heat is absorbed and conducted to the cooler, and consequently the smaller the arm the better it is in this respect.

All well-made draught-arms have some mechanical contrivance for obviating a difficulty that always arises in drawing a carbonated liquid, namely, the dissipation and waste of gas caused by the naturally rapid and violent discharge of the liquid under pressure. The agitation of the water in the partly filled tumbler, as the stream dashes swiftly into it, involves a ruinous loss of gas; and yet, where syrup is used, some degree of force is necessary to mix it with the water. One way of meeting the difficulty is to use a draught-arm, with two handles and two separate faucets inside, one discharging a small swift stream to mix the syrup, and the other a larger and presumably slower stream to fill the glass. By another contrivance (Fig. 9), raising the edge of the partly filled tumbler against the end of a little lever (*a*) projecting from the side of the draught-arm, brings the other end of the lever just below the inside vent of the faucet (*b*), thus breaking up the swift stream and compelling it to flow from the nozzle of the arm in a larger and slower current. A still simpler device (Fig. 10), now employed in the best apparatuses, consists simply of a bridge placed across the inside of the arm, with a small funnel-shaped hole (*a*) directly beneath the faucet-vent (*b*). A part of the flow rushes at full speed through this hole, while the rest strikes on the bridge and is thus diffused and checked in its escape. This gives a small swift stream surrounded by a large slow one, thus securing a thorough mingling of the syrup, and at the same time a very small loss of gas.

The reader who has attentively followed our remarks, from the entrance of the fountain to the nozzle of the draught-arm, will be prepared to accept the conclusion that, as a general rule, *in the best apparatuses, considered with reference to purity, durability, and reasonable cost, the soda-water is in contact, from beginning to end, with pure tin in pipe or sheets, and with no other metal.*

But while this rule applies to the carbonated liquid, it does not at all apply to the syrups. Sugar in solution, according to Pereira and others, has a deleterious chemical action upon tin, and it is certain from experience that the more acid syrups, when kept in contact with this metal, receive an injurious taint. When syrups were first introduced as ingredients in soda-water, they were kept in bottles and dispensed by hand. To facilitate this process, faucet syrup-tanks of metal were soon introduced, but the increased convenience of these was generally attended by a great sacrifice of purity. Zinc tanks are doubtless the worst, being even more intolerable than lead pipe. Fortunately these are rare, but copper tanks, more or less tin-washed, are only a little better, and are, unluckily, in very extensive use. Syrup from such tanks has repeatedly caused drinkers to vomit almost before reaching the street. Tanks of tin are better than copper ones, but still are seriously objectionable. Gray earthenware tanks serve a very good purpose, and do not injure the syrup; but the white and yellow ware is suspicious, as it is liable to be glazed with a mixture containing lead. The very best material for syrup-tanks, however, is glass. Besides perfect purity and moderate cost, its transparency is a very desirable feature in an article which it is so important to keep perfectly clean.

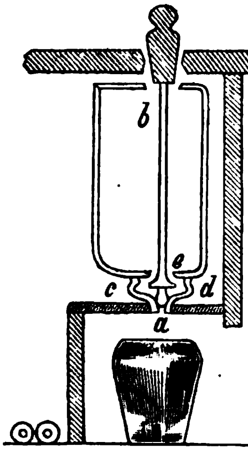

FIG. 11.

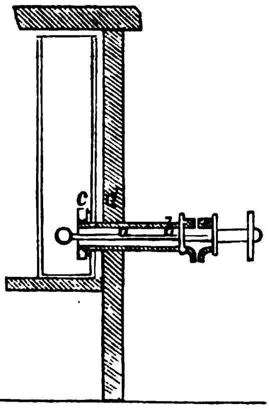

FIG. 12.

It is still a very common custom to make syrup-tanks immovable, and to draw their contents by means of metal faucets opening through the marble front of the apparatus. Long experience proves that syrup-faucets are an expensive nuisance. Plug-faucets are poisonous, and soon become leaky and generally intolerable; compression faucets are better, but are open to the grand objection to all syrup-faucets, that they prevent the ready removal of the tank from the apparatus for the purpose of cleaning and filling.

Besides purity, transparency, and reasonable durability and cheapness, which are secured by using strong glass, the desiderata in a syrup-tank are portability, simplicity in construction, and cleanliness in operation, coupled with the smallest chance for leakage, and furthermore, some device for measuring the amount of syrup discharged. Portability is most readily gained by making a chamber in the apparatus under the tanks and discharging the syrup at the base, as shown in Fig. 11, thus avoiding faucets altogether. This is done most effectively by means of a valve (*a*) of hard rubber, worked by a handle (*b*) of the same material, extending up through the syrup to the top of the apparatus. A chamber (*c*) at the base of the tank contains a measured quantity of syrup, which is all discharged when the valve (*a*) is rapidly drawn up, another valve (*d*) closing the opening above (*e*) and the air escaping through the hollow handle (*b*). When drawn partly up, less syrup is discharged, and when drawn up slowly, more escapes. In Fig. 12, the space between the pistons (*a* and *b*) is a measuring chamber. It should be observed that there is a chance for leakage under the nut (*c*), or past the washer (*d*) into the ice-chamber, whereby much syrup is sometimes wasted before the druggist suspects anything wrong. Note, also, that wear of the edges of the pistons is sure to cause leakage from the nozzle sooner or later. A particularly objectionable feature of this and many other faucet-tanks, is the fact that the syrup below the level of the faucet can only be removed by diluting it with water and "swabbing" it out—a tedious and ineffective process. In the improved tank (Fig. 11) leakage cannot possibly occur, except at a single point, and, as the valve (*a*) automatically compensates for its own wear by settling down further, such leakage can hardly occur. The simple construction of this tank is self-evident. Its cleanly operation appears from the fact that the impetus of the falling handle drives off the drops which stick in the nozzle of an ordinary faucet, attracting flies and catching the dust. As it is customary to keep tumblers in the chamber under the tanks, which chamber is generally closed by a door, the syrup-vents are fully protected from flies and dust, and any syrup that might escape is caught in a tumbler, thus absolutely preventing waste.

Where fixed tanks are used, earthenware is to be preferred, as the frequent turning of the faucet is more liable to wrench and break glass, the transparency of which is of no advantage unless the tank is portable. Be sure, also, that the faucet opens into the tank at the base, so that the contents can be entirely drawn off. Rubber rings or cups form the best connection between the tanks and the faucet, and it is claimed that some tanks thus joined can be detached and replaced without disturbing the faucet; but this would require unusual skill, and great loss by leakage would ensue from an imperfect rejoining.

Inasmuch as the public has a right to demand perfect purity in any beverage sold at a reputable pharmacy, it follows that no druggist should rest satisfied unless his tanks are of glass or gray stone-ware. If of any other sort, he should test the syrups at regular intervals, and as soon as he finds any serious trace of metallic contamination, he should get new tanks without delay. Fortunately the portable glass tanks, which insure the highest degree of purity, are also the most convenient and economical, and can be readily introduced into any apparatus, and their adoption is the only radical remedy for the numerous evils of metal tanks and faucets.

As to the external marble case of the dispensing apparatus, not much needs to be said. The style and degree of ornament are matters of individual taste, and do not affect the quality of the soda. Buy nothing, however, in which the slabs of marble are merely screwed to each other, as such a construction is inevitably weak, and remember that inside brackets to which the marble is screwed are decidedly better, as a means of strengthening, than outside clamps. The variegated dark-colored marbles are more expensive, but they are also generally harder and more durable, as well as more beautiful, than those that are white or light-colored. Avoid much metal work, unless you are sure it is heavily plated, as it has a very shabby look when the base metal begins to show. Crystal domes, fountain attachments, gas-burners, fancy signs and the like, are well enough in their way, but it is arrant folly to spend money on these unless the interior of your apparatus is as pure and fresh as tin and glass can make it, and unless you are provided with all the improvements for maintaining and improving the quality of the beverage, and for securing economy, safety, and convenience in making and dispensing it.

The care of the dispensing apparatus is simple enough, but still it is apt to be neglected. See that the ice-receiver is kept well supplied, and have it thoroughly washed out once a week, or oftener, if a coil cooler without spaces is used. It will pay to empty and clean the syrup-tanks every day, and this can easily be done if they are portable. It is well to wash them with a mixture of three ounces of soda or potash to a gallon of tepid water. A similar mixture may be used to wash the marble. Keep the metal-work well polished; see that everything about the apparatus is neat and orderly, and remember that perfect cleanliness is the best show-card you can have. Be sure that the attendant keeps the tumblers well washed, rinsed and cooled, as a dirty, dusty, or heated tumbler will go far to spoil an otherwise delicious drink. The brush tumbler-washer, which cleanses both the inside and the outside of the tumbler simultaneously, is an excellent thing to have; and a cooling chamber where a number of glasses may stand under cover, close to the ice-chamber and ready for instant use, is a feature that all apparatuses should possess.

Next to perfect purity, which is the first and great essential, the qualities most important in good soda-water are: pungency, depending on the presence of an abundant supply of gas; coolness, which is the result of a judicious mixture of ice and brains; and fine flavor, which can only be secured by means of fine syrups. The importance of these qualities may be illustrated by reference to Delatour's soda-water stand in Wall Street, which maintained for many years an extraordinary popularity, though the beverage was dispensed in a way so rude as to be almost picturesque. The fountains were placed in an ice-house and thoroughly refrigerated before charging—the cold water, of course, imbibing the largest amount of gas. Then they were snugly packed with ice in large tubs, as ice cream freezers are packed, and conveyed to the Wall Street store. Reaching there, a "goose-neck" was attached to the fountain, and, without removing it from the ice, its contents were drawn for the customers, scores of whom often stood in a long queue waiting their turns! The syrups used were extraordinarily thick and rich, and were kept in bottles on ice till they were called for. The trade was limited to the four or five hours of greatest activity in Wall Street, but the business done has, perhaps, never been surpassed, or even equalled, at any other soda-water stand in the world.

The moral of this is evident enough. The man who would succeed in the soda-water business must add to purity, pungency, and to pungency, frigidity, and to frigidity, flavor. Then may he fairly expect to see the public flocking to drink the icy beverage that

"Dances in its crystal bounds,
With fragrant syrups mixed."

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Feeling the Pulse by Telegraph.—Some months ago Dr. Upham, of Salem, Mass., in order to explain to his audience the variations of pulse in certain diseases, caused the lecture-room to be placed in telegraphic communication with the city hospital of Boston, distant 15 miles, and by means of special apparatus the various pulse-beats were exhibited by a vibrating ray of magnesium-light upon the wall. These experiments have lately been repeated at Paris with success.

Slate-Paper.—Prof. Marx, of Stuttgart, has originated an exceedingly handy method for preserving drawings or diagrams made with chalk upon a black surface for lecture purposes. It is frequently necessary to place figures or drawings upon the black-board, which have to be wiped off again, and have to be rewritten every time they are wanted. He has caused the firm of C. Lienhard, of Stuttgart (manufacturers of paper-hangings), to make an endless, dead-black paper, 1 metre wide, of which a piece of the necessary length is cut off and pinned upon a flat surface. When the drawing or writing is finished, the chalk is fixed upon the paper with a dilute solution of shellac made by dissolving 50 gm. of bleached shellac in 1 litre of alcohol of about 85 per cent., and filtering. This solution is applied by means of a spray apparatus. The chalk-marks disappear at first, but reappear on drying.

COMMERCIAL DRUGS OF THE CHINESE PROVINCE OF KUANG-TUNG (CANTON).

BY DR. F. HIRTH DU FRENES, OF AMOY, CHINA.

(Concluded from page 180.)

In reference to *Galangal* or *Galgant* root, of which we have spoken above,[*] it may not be out of place to remark that its botanical source has been ascertained only a few years ago by Dr. H. F. Hance, English vice-consul in Whampoa, and probably the greatest living authority on the flora of Eastern Asia. He found specimens of the plant in the neighborhood of the city of Hai-an-so, on the south shore of the peninsula Lei-chou, which runs out towards the island of Hai-nan. The results of his investigations were published in the 13th volume of the *Journal of the Linnæan Society*.[†] According to these, the plant is a new species of Alpinia, designated as *Alpinia officinarum*, and is found native in Kao-chou-fu, in the district Hsü-wen (situated in the most southern part of the peninsula), and upon Hai-nan. A Chinese work on the geography, products, etc., of this district, entitled "Kuang-tung hsin-yü," or "New Reports on Canton," contains the following passage on *galangal*: "The root of this plant resembles ginger, and is used as a drug; the seed occurs in the market under the name of 'red cardamoms' (hung-tou kou-tzu), and is said to have purgative properties, when eaten in an unripe state. The natives use these red cardamoms, pickled in sweet sam-shu [a Chinese rice- or fruit-wine], as condiment for meats or fish. Towards the end of winter, that is, in January and February, the seed looks like a piece of amber, has a bitter, aromatic taste, and forms a grateful addition to chopped meat. The root is not used as food, but only as medicine; hence it bears a name different from that of the plant."

The list of commercial drugs which form important articles of exportation, is, according to our showing, not very large; but the home-trade in domestic products is exceedingly active and extended. Among these, *sugar* undoubtedly occupies the front rank, although the market of Canton cannot bear comparison, in this respect, with those of Swatow, Amoy, and Takow.

Plantations of sugar-cane are found along the shores of nearly all the rivers of the province, chiefly along the Eastern River; and in the districts of Pan-yü (Eastern Canton), Tung-Kuan and Tseng-cheng, nearly 40 per cent. of the arable soil is planted with sugar-cane. In the centre of this region lies the city of Shih-lung (or Shek-lung), which is the principal market for this industry. Another important sugar district extends along the shores of the small river Mo-yang, which empties into the sea opposite the island Hai-ling-shan. In the district of Yang-chun, which occupies about the middle course of the just-mentioned river, where the latter flows through a fertile valley between low mountain chains, six-tenths of the cultivated soil are made to produce sugar.

Next to sugar *betel* deserves particular mention. The areca-palm, from which betel is obtained, is found abundantly upon the island of Hai-nan, upon the opposite peninsula of Lei-chou, and in the department of Lien-chou-fu, which extends along the northern shore of the bay of Tung-King (Tonquin). The betel produced in the district of Hui-tung, at the west coast of Hai-nan, is considered the best; next to it is said to rank that coming from Lo-hai.

The neighboring sea furnishes *Agar-Agar*, a gum-like mass obtained from a species of algæ, which is used for sizing and calendering paper and silks, for giving a transparent coating to the gauze-covering of lanterns, and many other purposes. It is principally collected by the fishermen of Hui-tung (at the seaport Sha-lao), on the east coast. Upon the small rocky islands of the south coast, near Ai-chou are obtained the well-known *eatable swallow-nests*, and large quantities of shells, often of great beauty and rarity.

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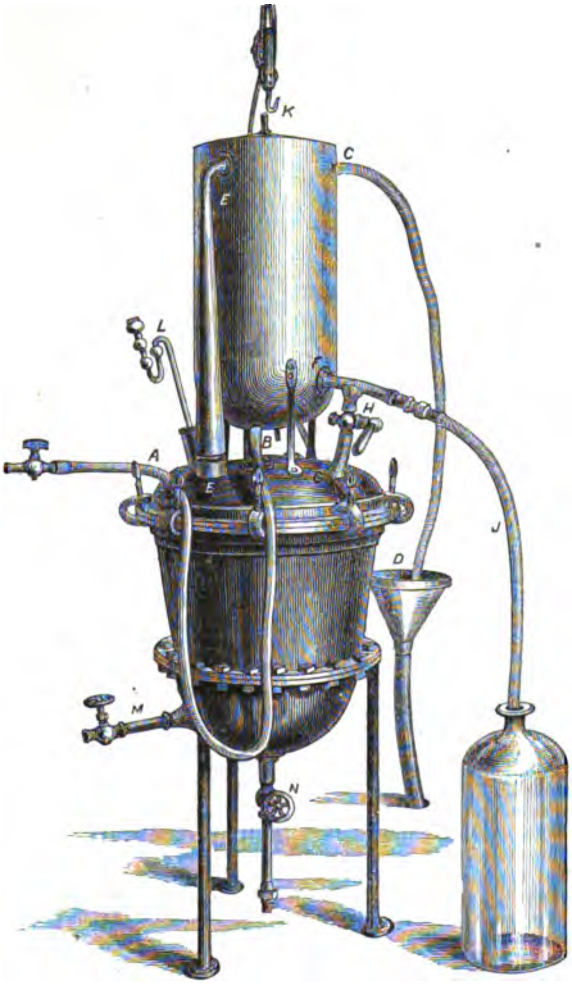
[*] *June Number*, p. 180.

[†] *Journ. of Linn. Soc.*, 1873, 1.

AN IMPROVED CONDENSER.

BY CHARLES RICE.

THE stills which are used by pharmacists or chemists are usually provided with a head terminating in a tapering pipe, which is intended to be connected to the worm or condenser. This connection, however, is, in many cases, quite awkward, and often a source of loss from leakage. Those who have had much occasion to work with such an apparatus will fully appreciate the truth of this. In large stationary stills, used on a manufacturing scale, the condenser consists of several parts: the so-called column, a series of vessels, which the vapors have to traverse, and in which all that part of the vapor condensable below a certain temperature, is reduced to the liquid condition, and returned to the still; and in addition to this a regular worm or condensing cooler. Such arrangements are, however, too circumstantial for small stills.



An Improved Condenser.

To obviate the difficulties above mentioned, the writer has constructed a new form of still-head and condenser, which completely answers all demands made upon it. It requires only *one* packing, may be used as a reflux-condenser, and saves a great deal of room, from the fact that a special worm-tub is made unnecessary. The annexed cut gives a very correct representation of the apparatus.

It consists mainly of two parts: the still and the head with condenser. The still has a capacity of sixteen gallons, and is heated by steam, which enters at *M*, *N* being the exhaust-pipe. The still-head is constructed of tolerably heavy copper, to be able to bear the weight of the condenser, which is fastened to it by three iron legs, attached with rivets. The condenser is a cylindrical copper vessel, of the capacity of about ten gallons, with rounded bottom and closed top, having short half-inch tubes projecting from the bottom and from the top—at *B* and *C*. There are two such tubes at the bottom, one for attaching the rubber-hose *A* bringing the water; the other, shown in the cut immediately alongside the letter B, is closed with a cork, and is used to permit the water to be emptied without detaching the hose from the other. At the top there are likewise two tubes, one at *C*, for attaching rubber-hose to carry off the water into the waste-pipe *D*; the other, being closed with a cork, is not shown in the cut, as it is on the back of the condenser.

The head of the still carries three short tubulures, only one of which is visible in the cut, and which contains a cork bearing the safety-valve, *L*. Another opening is at the other side, for refilling the still when required; and still another narrower tube, intended for the insertion of a thermometer. The condensing-pipe begins at *E*, where it rises from the head parallel with the condenser. It is made of copper as far as the point indicated by the upper *E*, where it is soldered to the *downward projecting* upper end of the block-tin worm contained in the condenser and emerging from it at F. This arrangement makes it impossible for any condensed liquid to come into contact with anything but block-tin. The worm, inside the condenser, is made by carefully winding upon a round block of wood twenty feet of three-quarter inch block-tin pipe, taking particular care that the coil has a uniform downward descent throughout. After emerging from the condenser at *F*, it extends for a short distance, where the cut shows it to be connected to the separate block-tin pipe *J* by means of a union joint lined with tin. Half way between *F* and the end proper of the worm the pipe is tapped and a branch, carrying the faucet *H*, leads into the still at *G*, where it terminates under the centre of the head in the form of an ∽, forming a trap to prevent the escape of vapors by this passage. The object of this arrangement is to cause the condensed liquid to flow back into the still as long as the faucet *H* is open, or to collect it outside by turning off the faucet *H*. Prolonged digestions with alcohol may be made by means of this apparatus, without any loss of liquid. The head is attached to the still by means of a rubber washer and iron clamps, and when it is desired to remove it, the water is allowed to drain from the condenser, the clamps are removed, and the whole is hoisted up by the tackle *K* and set on one side.

To illustrate the use of the faucet *H* by an example, we will suppose that we have to completely exhaust 10 lbs. of powdered Nux Vomica. Into a frame fitting into the upper part of the inside of the still is fitted a broad, short copper percolator, which is packed with the powdered nux vomica. The head and condenser being connected with the still, about three gallons of alcohol are poured into the still, and the water having been turned on the condenser, and flowing briskly, steam is carefully turned on at *M*. The faucet *H* is kept closed as yet, and the pipe *J* is made to point into a receiver. As soon as condensed alcohol flows into the latter in a steady and uniform stream, the faucet *H* is opened, when the flow of alcohol returns to the still, and empties itself from the end of the ∽ over the centre of the percolator. From time to time the faucet is closed, and the regularity of the flow is observed, as it empties itself into the receiver. After a certain lapse of time, depending upon various circumstances, and mainly upon previous experience,—in the present instance, after about 4 hours,—the nux vomica is completely exhausted, and the last part of the operation consists in turning off the faucet, and permitting all the alcohol to run into the receiver.

The writer is in the habit, when using the apparatus for such purposes, to place into the still two gallons of ordinary glycerine, and into this a large porcelain pot, supported in such a manner that the glycerine surrounds it on all sides up to within about four inches of the top. The liquid to be distilled, f. i. alcohol, is placed into the dish, the distillate, if required to be used as a continuous menstruum, is made to run back into the still, where it flows into the dish, and finally, after distilling off the alcohol, the dish is removed with the extract contained in it. If the tincture is allowed to run directly into the still, and the alcohol is distilled off, it requires considerable labor and waste of alcohol to remove the extract, besides incurring the danger of overheating and almost baking it.

In all cases, when possible, it is recommended to place into the still a preliminary charge of water, say one-half to one gallon, and to distil this over to dryness. The packing thereby swells up and becomes tight, so that when the alcoholic liquid is introduced no loss will be incurred.

The apparatus is *not* patented, and the writer places it at the disposal of any one who wants to use it. It will be made at very reasonable prices, and of superior workmanship, either the still and condensing head together, or condensing head alone, by John H. Heynen & Co., 246 Water Street, New York.

CONTRIBUTIONS FROM THE SCHOOL OF PHARMACY, UNIVERSITY OF MICHIGAN.

1. Estimation of Arsenic in Wall-Paper and Green Tarlatan.

BY ABRAM P. KERLEY, PH. C.

FIFTY samples of wall-paper were examined, and twelve were found to contain arsenic. The arsenic was present either as arsenite of copper, or aceto-arsenite of copper.

Two samples, not reported, which contained no green color, were found to contain arsenic, and several papers with green figures contained no trace of arsenic.

Six samples of green tarlatan, all that were tested, were found to contain large amounts of aceto-arsenite of copper. The higher the price paid the more arsenic was found. The green coloring matter was held more firmly to the fabric by means of gum arabic and starch.

The following are the methods of analysis: In the preliminary, qualitative analysis, the sodium amalgam test[*] for arsenic was employed, and proved very satisfactory and delicate.

All the usual tests for arsenic and copper were also applied. The quantitative estimation was conducted as follows:

Treated the paper with warm dilute hydrochloric acid, of twelve to fifteen per cent., filtered; added potassium hydrate to precipitate copper and other bases; boiled, filtered, acidulated the filtrate with hydrochloric acid, and treated with hydrosulphuric acid until all the arsenic was precipitated. The precipitate was well washed on a filter, dissolved in ammonium hydrate; this solution evaporated to dryness in a porcelain crucible, and treated with nitric acid to change it to arsenic oxide, in which form it was weighed.[†] From this result was calculated the amount of "Paris Green" in the sample. In case the final residue was colored by organic impurities, it was heated carefully with ammonium nitrate and nitric acid. This treatment effectually destroyed the organic matter.

From the results tabulated below, it will be seen that a room sixteen feet square and nine feet high will have spread upon its walls, provided any of these papers are hung, from fifty-two grains to more than eight ounces of poisonous green coloring matter. We may also calculate that a green tarlatan dress of sixteen yards will contain nearly five and one-half ounces of this same dangerous "Paris Green."

The remedy is simple: be careful not to buy such wall-papers or dress goods.

Amounts of "Paris Green" in Wall-papers. One square yard of each sample.

No. 1,	56.89 gr.	aceto-arsenite of copper,	or	4.21 gr.	arsenic.
" 2,	52.16	"	"	3.86	"
" 3,	46.37	"	"	3.43	"
" 4,	34.76	"	"	2.57	"
" 5,	27.84	"	"	2.06	"
" 6,	5.89	arsenite.	"	2.35	"
" 7,	4.32	"	"	1.75	"
" 8,	2.96	"	"	1.18	"
" 9,	2.59	"	"	1.04	"
" 10,	1.63	"	"	.731	"
" 11,	1.04	"	"	.417	"
" 12,	.814 gr.	"	"	.326	"

Amounts of "Paris Green" in Green Tarlatans. One yard of each sample.

No. 1,	149.87 gr.	aceto-arsenite of cop'r	or	11.09 gr.	arsenic.
" 2,	136.49	"	"	10.10	"
" 3,	125.93	"	"	9.32	"
" 4,	123.79	"	"	9.16	"
" 5,	117.57	"	"	7.70	"
" 6,	115.009	"	"	8.51	"

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A HOMŒOPATHIC journal; very good so far as it goes, but two dollars for forty-eight quarto pages of matter is rather an "expensive whistle," at present prices of medical literature.

THIRTY-FOURTH ANNUAL REPORT of the Managers of the State Lunatic Asylum, Utica, N. Y., for the year 1876.

THE total number of inmates was 1,071, and, notwithstanding the unfavorable character of a large proportion of the cases admitted, 33 per cent. of these cases, and 50 per cent. of all cases in which a reasonable hope of recovery could be entertained, were discharged cured.

MARYLAND MEDICAL JOURNAL. Baltimore. Editors: H. E. T. Manning, M.D., T. A. Ashby, M.D. Published monthly by Manning & Ashby, proprietors. $3.00 per annum in advance. 8vo, pp. 58.

A NUMBER of medical journals have, within a few years past, had their origin in Baltimore, but have failed to succeed as commercial ventures. The present one, of which we have received already four numbers, deserves a better fate, if quality of matter and elegant appearance count for anything, and we extend to it a cordial welcome.

THE MEDICAL REGISTER OF NEW YORK, NEW JERSEY, AND CONNECTICUT. For the year commencing June 1, 1877. A. E. M. Purdy, editor. Vol. XV. New York: G. P. Putnam's Sons.

THIS handy book reached us too late for notice in our July number, having been some time overdue. The delay is attributed by the editor to the want of promptness on the part of physicians in supplying the information it contains, and is not to be wondered at when the amount and variety of matter furnished is considered.

The present volume is rather more compact than its predecessor, and has several valuable improvements. The list of names of physicians practising in New York city and Brooklyn is in clearer type, and the membership in local societies is mentioned after the name of each individual. The obituary notices of those deceased during the preceding year continue to form one of the most valuable parts of the work.

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[*] E. W. Davy, *Chemical News*.—NEW REM., v., p. 108.

[†] Vaughan and Douglas—*American Chemist*, March, 1877.

Analysis of Seven Hundred and Seventy-four Cases of Skin Disease Treated at the Demilt Dispensary, during the Year 1876, with Cases and Remarks on Treatment, by L. Duncan Bulkley, A.M., M.D. (Reprint from *N. Y. Medical Journal.*) New York. D. Appleton & Co. 1877. 8vo, pp. 48.

The care with which the cases reported by Dr. Bulkley have been observed and recorded make them very valuable additions to clinical medicine.

Transactions of the 79th Annual Session of the Medical and Chirurgical Faculty of Maryland, held at Baltimore, April, 1877.

Contains some very interesting papers, an extract from one of which (by S. Weir Mitchell) we give on page 229. The *President-elect* is Abram B. Arnold, M.D.; *Secretary,* Wilson G. Regester, M.D., both of Baltimore.

Metric System of Weights and Measures. Specially arranged for the convenience of physicians and druggists.

A convenient card 9x13 inches, issued by Hance Brothers & White, and embracing condensed tables of measures of length, weight, capacity, and surface, with their equivalents in measurements in common use in the United States.

Hints for Hospital Nurses. Arranged by Rachel Williams, of St. Mary's Hospital, London, late of the Edinburgh Royal Infirmary: and Alice Fisher, of the Fever Hospital, Newcastle-on-Tyne. Edinburgh, Maclachlan & Stewart, 1877. 16mo, pp. 174.

[A very complete and useful little work, in which the attempt is made to give instruction in regard to a multitude of the little details which make up the knowledge of a skilful nurse. The success with which it is accomplished, as well as the modest way in which it is done, deserve the warmest commendation.

Tobacco in Virginia and North Carolina. By the Southern Fertilizing Company of Richmond, Va. 8vo, pp. 31.

La Clef du Diagnostique, ou Vade Mecum de L'Elève et du Practicien. Séméologie, Description, Traitement, par le *Docteur J. C. Charazac.* Paris: Adrien Delahaye, 1866.

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Snively (John H.). A Treatise on the Manufacture of Perfumes and kindred Toilet Articles. 8vo, pp. 248. Chas. W. Smith. $3.00.

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Foakes (J. W.). Gout and Rheumatic Gout: A New Method of Cure. 6th edition. 12mo, pp. 118. Simpkins.

Williams (C. T.). The Influence of Climate in Prevention and Treatment of Pulmonary Consumption. Post 8vo, pp. 162. Smith & Elder.

Rae (J.). Electricity as a Therapeutic Agent. $1. Boericke & Tafel.

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The Teacher's Metric Manual. A Complete Guide to the most effective Teaching of the Metric Weights and Measures. 20c. Announced by Am. Metric Bureau.

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Church (A. H.). The Laboratory Guide. A manual of practical chemistry for colleges and schools, specially arranged for agricultural students. 4th ed., rev. Post 8vo, pp. 246. Van Voorst. 6*s*. 6*d*.

Farquharson (Robert). A Guide to Therapeutics. Post 8vo, pp. 308. Smith & Elder. 7*s*. 6*d*.

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Campbell (Hugh, M.D.). Outlines of Medical and Surgical Electricity. 8vo. Lindsay & Blakiston.

Pancoast (S., M.D.). Blue and Red Light. Crown 8vo, pp. 312. J. M. Stoddard & Co. $2.

Remsen (Ira, Ph.D., M.D.). Theoretical Chemistry. Henry C. Lea. 12mo. $1.50.

Hayes (J., M.D.). Electro-Thermal Baths. 12mo, pp. 112. Jansen, McClurg & Co. $1.25.

Herbillon (Jul.). Du Bromhydrate de Quinine et son emploi dans la fièvre intermittente. 8vo, Paris, 1877, pp. 40.

Jeanel (J.). Formulario oficinal y magistral, internacional, que comprende más de cuatro mil formulas escogidas, etc. 2ª ed. 8vo, Madrid, 1877, pp. 864. 32 *real.*

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Uhlworm (Fr. H. Osc.). Nomenclator Botanicus. Nominum inde ab anno 1859 usque ad finem anni 1876 publici juris factorum—enumeratio alphabetica. (A continuation of Pfeiffer's Nomenclator Botanicus.) 4to. In monthly numbers, à 4½ *marks.*

Just (Dr. Leop.). Botanischer Jahresbericht. Systematisch geordnetes Repertorium der Botanischen Literatur aller Länder. Für, 1875. 2ter Halbband. 8vo, Berlin, 1877. $5.50.

Sachsse (Rob.). Die Chemie und Physiologie der Farbstoffe, Kohlehydrate und Proteïnsubstanzen. Ein Lehrbuch f. Chemiker und Botaniker. 8vo, Leipzig, 1877. $2.50.

Kühne (W.). Über das Sekret der Pancreas. 8vo, Heidelberg, 1877, pp. 10. 20*c.*

Same. Über das Trypsin (Enzym der Pancreas). Ibid., 20*c.*

Kühne (W.) and **Lea** (A. Sh.). Über die Absonderung der Pankreas. Ibid., 20*c.*

Liebermann (Leo). Anleitung zu Chemischen Untersuchungen auf dem Gebiete der Medicinalpolizei, Hygiene und Forensischen Praxis. 8vo, Stuttg., 1877. $2.50.

Fittica (Prof. F.). Über die Aufgaben der wissenschaftlichen Chemie. 8vo, Giessen, 1877. 50*c.*

Schaer (Ed.). Die ältesten Heilmittel aus dem Orient. 8vo, Schaffhausen, 1877.

Ibn Beitâr. "The Whole of the Simple Remedies and Foods." The Arabic text of this important work, of which Southeimer published a translation in 1840, is now complete in four volumes. It was printed at Bulaq since 1874 in 8vo, and costs about $18.

Birnbaum (Dr. K.). Einfache Methoden zur Prüfung wichtiger Lebensmittel auf Verfälschungen. 8vo, Karlsruhe, 1877. (Received from the Minister of the Interior of the Grand Duchy of Baden.)

Jones (Alex. H.). Remarks on Sulphate of Quinia. 8vo, Phila., April, 1877. (Arguments against the proposed legislation to put quinia on the free list.)

Ma'dan ul-hikmat ("Mine of Wisdom"). A Treatise of Medicine in Urdu and English, published by the Saïyid Gulam-i Houssain. With a vocabulary of medical terms. 8vo, Amritsir, 1876, pp. 499.

Gumpach (Joh. von). The Treaty-Rights of the Foreign Merchant and the Transit-System in China. 8vo, London, pp. 421. 10*s.* 6*d.*

Hell (G.). Pharmaceutisch-technisches Manuale. I. Pharmaceutischer Theil. 2d ed. 8°. Wien, pp. 359. $2.60 gold.

Sell (Dr. E.). Grundzüge der modernen Chemie. I. Anorganische Chemie. 8°. Berlin, pp. 614. $3.70 gold.

Bericht über die Weltausstellung in Philadelphia in 1876. Herausgegeben von der Oesterr. Commission. I. Dr. E. Perels, Die landwirthschaftlichen Geräthe und Maschinen. 8°. Wien, pp. 254. $1.50 gold.

Kolbe (Dr. Herm.). Kurzes Lehrbuch der Anorganischen Chemie. I. 8°. Braunschw. 1877. $1.10 gold.

Cech (Dr. C. O.). Phenol, Thymol und Salicylsäure als Heilmittel der Brutpest der Bienen. 8°. Heidelb. 1877. 35c.

Artus (Dr. Wilibald). Hand-Atlas sämmtlicher medicinisch-pharmaceutischer Gewächse. 240 plates. 2 vols. 4°. Jena, 1887. 32 m. 40 pf.

Stierlin (Dr. R.). Über Weinfälschung und Weinfärbung, mit besonderer Rücksicht auf Fuchsin und die Mittel solche nachzuweisen. 8°. Bern.

Hehner (Otto) and **Ongell** (Arthur). Butter, its Analysis and Adulteration. Specially treating on the Detection and Determination of Foreign Fats. 2d ed. 8°. London, 1877.

Robbins (D. C.). Annual Review of the Drug Trade of New York. For the year 1876. 8°. New York, 1877.

Heiner (Dr. J.). Das Amerikanische Pfeilgrift Curare. 8°. Leipzig, 1877, pp. 64. 60c. gold.

Héraud (A.). Nuevo diccionario de las plantes medicinales estudiadas bajo el punto de vista botánico, médico y farmacéutico. Traducido y adicionado con los nombres vulgares españoles, etc., por J. G. Hidalgo. 4to. Madrid. In parts, to form about 600 pages.

Cooper (E.). Forest Culture and Eucalyptus Trees. 12mo. San Francisco. 1876. 240 pp. $2.20.

Berthelot (M.). Die chemische Synthese. 8vo. 1877. $1.90.

Kingzett (C. F.). The History, Products and Processes of the Alkali Trade, including the most recent improvements. 8vo. London. 1877. $4.00.

Berger (Dr. H.). Beiträge zur Entwicklungsgeschichte von Bryophyllum calycinum. 8vo. $1.90.

TRADE NOTES.

Filter-Presses.

Messrs. Wegelin & Huebner, of Halle, on Saale, Germany, are the manufacturers of exceedingly compact and serviceable hydraulic filter-presses for a variety of purposes.

Fig. 1 represents a filter-press of iron with central admission of the water-pressure. These presses are especially suitable for the separation of precipitates of a neutral nature from liquids, as well as for the use of color, glycerine, stearin, paraffin, starch, yeast, and dextrin manufacturers. For the clarification of juices they are extremely useful. In case it it is desired to wash the pressed substance within the chambers of the press, this may be done by means of a special washing apparatus connected with the press. The material to be filtered is placed into suitable filter-bags and these are introduced between the filtering disks.

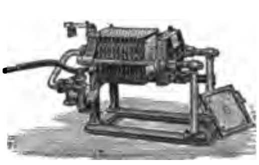


Fig. 1.

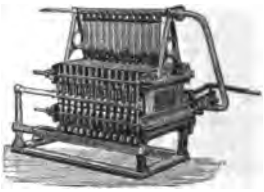


Fig. 2.

Another form of filter-press is shown in Fig. 2. This is constructed of wood with tubular feed from above, and is particularly adapted for the separation of heavy precipitates, such as white lead, barytes, etc. They are constructed in such a manner as to allow the easy removal of the filter-cloths, and the sediment thereon, from the filter-chambers.

Both of the above presses are made of various sizes, having filtering areas of from 2.5 to 20 square metres, and capable of furnishing in ten working hours from 300 to 2,000 kilos of pressed precipitates.

The same firm also makes a smaller filter-press, Fig. 3, intended especially for chemists, pharmacists, and for experimental purposes. These presses are provided with a heating attachment, which allows the press to be heated by means of steam, in case the liquids are desired to be filtered hot. When the liquids containing the precipitates are of a volatile nature, the firm furnishes presses constructed in such a manner that the filtrate is not exposed to the air, and no evaporation takes place. There is a washing attachment connected with the press by means of which the pressed substances can be completely washed while still in the filter-chamber. The price of this filter-press with pump, in brass, is, at the factory, 450 marks (about $117); in iron, 300 marks (about $78). The price of three sets of assorted filtering cloths is 11 marks ($2.86).

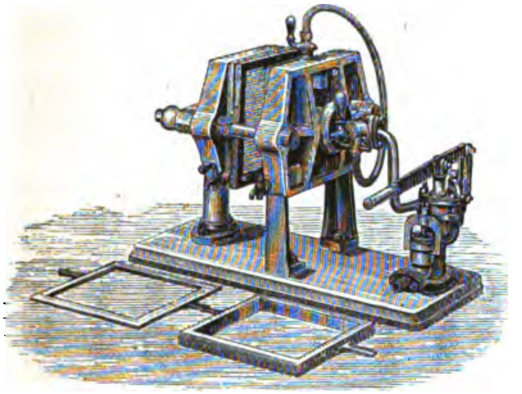
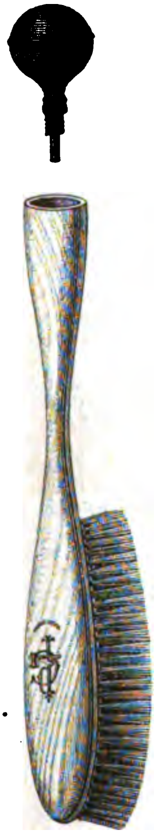


FIG. 3.

Pinaud's Patent Hair-Brush.



PINAUD'S patent hair-brush, for the application of hair-dyes and hair-tonics, is made with a metallic tube inserted through the handle, opening into a square chamber or receptacle in the centre of the brush. A small bulb is first filled with the dye or preparation to be used, then inserted in the handle, as shown in the illustration, when, by a slight pressure of the hand on the bulb, the fluid passes through the tube into the centre of the brush, and then through small apertures down on to the bristles, which distribute it very uniformly over the head. Each brush is securely packed in a box, which also contains a small glass dish of sufficient capacity to hold the dye or tonic for each application. The brush is said to be used very extensively in Europe, and for neatness and simplicity far excels anything before produced. Price, $24 per dozen. McKesson & Robbins are wholesale agents for the United States.

Planten's Capsules.

THE increasing attention which is being paid to the exhibition of medicine in agreeable forms brings into prominent notice the merits of capsules made of jujube and gelatine. H. Planten & Sons, of 224 William St., in this city, are well known as being among the most prominent and reliable manufacturers of these wares. They offer five sizes of jujube-paste (empty) capsules: Nos. 0 (the largest) and 1, 2, 3, and 4 (the smallest), and a large line of gelatine capsules, charged with balsams, oils, vermicides, chloroform, etc., of which lists and prices will be furnished on application. This house gives particular attention to putting up special receipts in capsule form.

A Respiratory Brace.

DR. GEORGE F. FRENCH, of Portland, Me., is the inventor and patentee of an appliance which might well be added to the list of sundries to be found in an apothecary's establishment.

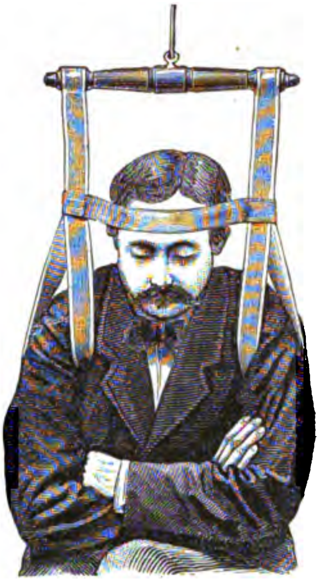


FIG. 1.

Many persons suffering from certain affections of the heart and air-passages, which renders breathing difficult at times, are obliged to fix the shoulders by leaning forward and resting the hands on the bed or knees. This affords the respiratory muscles a firmer point from which to act, and renders their action less tiresome. This posture interferes with sleeping, and the consequent loss of rest is one of the most distressing accompaniments of the diseases referred to. The adjoining cuts show how the brace of Dr. French can be used to fix the shoulders without requiring the patient to remain awake.

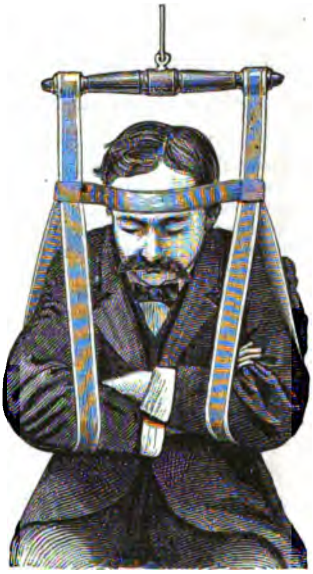


FIG. 2.

A cross-bar has loops of elastic webbing depending from its ends, which can either be slipped under the arm-pits, or, in case the weight of the upper part of the body is sufficient to cause pressure enough to interfere with the circulation, they may be passed under the points of the elbows, as seen in figure 2. A band of webbing, made to encircle the head, is connected by guys with the vertical strips, and completes the means for placing the muscles supporting the upper part of the body entirely at rest.

We are informed that the brace is meeting with a great deal of favor among travellers on the railroads. The relief which it affords from the jar of a car is said to be greater than can be obtained in sleeping coaches, and the rest is quite as refreshing.

The Iron-Clad Shipping-Can.

THIS can, made by Wilson & Blye, is adapted to protect an ordinary oil-can from injuries in transit, and after serving this purpose can be employed for a multitude of uses, such as serving as a receptacle for slops, ashes, coal, fuel, &c. It is made in sizes to fit cans holding one, two, three, five, and ten gallons, and ranges in price from forty-five cents to $1.65.

True Mitcham Lavender.

THIS delicate perfume, distilled from the flowers of the famous Mitcham Gardens in England, is for sale by Theo. Ricksecker, 146 William Street, at $7.50 per dozen. Aside from its value as a perfume, it is recommended for its medicinal properties in disturbances of digestion, inflamed eyes, and skin eruptions.

Warner's Pills and Granules in Egypt.—Messrs. W. R. Warner & Co., of Philadelphia, have received from Dr. Edward Warren, late Surgeon-in-Chief of the Egyptian Army, a letter thanking them for their donation to the Egyptian Government of their entire Vienna exhibit of sugar-coated pills and granules, which he declares gave great satisfaction.

ANALYSES OF PHARMACEUTICAL CHEMICALS AND PREPARATIONS.

We are now prepared to send samples for the October prize to such as may desire to compete for it. Answers must be received before the 20th of September, and be accompanied by a sealed envelope containing the name of the writer, and designated by a device or motto, which is also to be placed, instead of the writer's name, upon the report of the analysis.

Persons to whom a prize has been awarded are requested to send to the publishers the title of any book or books they may desire, not exceeding in the aggregate the value of $10.00.

None of the analyses sent in competition for the second prize were correct.

THE second sample sent for analysis contained potassium bitartrate ("cream tartar"), seventy per cent.; ammonia alum, twenty-seven per cent.; calcium tartrate and calcium sulphate, two or three per cent.

This sample is approximately of the same composition as much of the "Grocers' Cream Tartar" now sold in the United States, and which, owing to its cheapness, enters into many of the lower grades of baking-powders.

It was to teach the best methods of determining the purity of these two articles of daily use that this sample was sent; and, although none of the contestants have given a correct analysis, their work will not have been valueless if it shall point out clearly the difficulties liable to confront them in determining the purity of cream tartar or baking-powder.

It may be well to review the methods of analysis, both of contestants and my own, and see where and how we may be led to suspect and prove the presence of the various ingredients.

The following is a condensed statement of processes and results:

1. *Physical properties.*

A white powder, not very heavy, feels "gritty" to fingers, has an acid, astringent taste. Under the microscope the substance is seen to be of a crystalline nature, but none of the crystals are very perfect. Mixed with them are larger fragments of another kind of crystals. On the slide of the microscope about half of the mixture dissolves in cold water; the remainder dissolves by adding a drop of hydrochloric acid.

2. *Preliminary tests.*

(*a*) Heated on charcoal with blowpipe flame, the substance fuses, decrepitates, and leaves a solid, white, infusible mass. This mass, moistened with a solution of cobalt nitrate and again ignited, assumes a blue tint—indication of silica or *alumina.*

(*b*) Heated in glass tube closed at one end, fuses, gives off much water, which condenses in the cool part of the tube. By continued heating, ammonia gas is given off. This shows the presence of some salt of the alkaline earths (Ba, Sr, Ca), or of the fixed alkalies (K, Na), *which by heating would change to carbonate or oxide.* Tartrates or acetates might be expected, but the absence of acetic vapors would rather point to tartrates. Bitartrate of potassium, heated, changes to carbonate of potassium, carbonic acid gas, and carbon.*

(*c*) Heated on platinum wire in the blowpipe flame, the violet color of potassium compounds was observed; this color was not obscured by blue glass.

3. *Solubilities, etc.*

Boiled a small portion in a moderate amount of water; about half was dissolved. Increased the amount of water and again boiled; only a very slight residue. Filtered hot, and washed this residue.

The water solution, on cooling, deposited needle-shaped crystals, showing a sparingly soluble salt. The water solution had an acid reaction.

4. *Results of preliminary examination.*

(*a*) From physical properties we conclude that there are at least two different salts in the mixture. From the taste we are led to suspect *alum* for one salt.

(*b*) Decrepitation points to the presence of water. Fusion, if easily accomplished, generally points to salts of the alkalies. An infusible residue of a white color points to alumina, barium, strontium, calcium, or magnesium. The blue tint with cobalt nitrate gives evidence confirming our suspicion of *alum.* The water observed after heating in a closed tube gives evidence of a crystalline salt containing water of crystallization. The abundance of the water gives additional encouragement to our suspicion of *alum.* The ammonia given off on heating for some time points to *ammonia alum.* The fact that ammonia was not at first given off points to some organic acid; acetic or tartaric are quite common as potash salts. The flame reaction shows potassium.

We are then sure of the presence of potassium, ammonium, and water, and suspect sulphuric acid as present in the alum, and tartaric acid as combined with potassium. The solubility of the salt in dilute acids excludes anything but *traces* of calcium sulphate.

Now, employing water, we remove by filtration any insoluble matter. This water solution is traced through the "groups," the result being that in the "third group" we find aluminium and a very faint trace of iron, in the "fourth group" a very slight trace of calcium, and in the "fifth group" a trace of potassium. A portion of the original water solution heated with potassium hydrate gives evidence of ammonia. This water solution shows much sulphuric acid, but only traces of acids precipitated by silver nitrate.

We have proven the presence of *ammonia alum* in the water solution.

The residue which remained insoluble in water gave such a bright potassium flame that we must conclude that it is an insoluble salt of potassium. By reference to text-books we find that the only white salt likely to be present is potassium bitartrate. By further reading we find, that potassium bitartrate nearly always contains about five per cent. of calcium tartrate, and sometimes a trace of calcium sulphate. We easily dissolve the salt by dilute hydrochloric acid, and prove the presence of calcium, potassium, and a trace of sulphuric acid. To prove tartaric acid is rather more difficult, and so we take a new and larger portion of the original substance.

Take fifty grains of the powder, boil with water, and add solution of sodium carbonate. Continue the heat a few minutes, then filter out the aluminium hydrate and calcium carbonate. The filtrate contains potassium—sodium tartrate (Rochelle salt), and sodium sulphate. From this solution the tartaric acid may be extracted by adding about five drops of sulphuric acid with alcohol sufficient to precipitate the sulphates of potassium and sodium. Filter, and to the filtrate add potassium hydrate, and acetic acid in excess. A white crystalline precipitate of potassium bitartrate will occur. The solution of tartaric acid should be quite concentrated to get the best results. Other tests, which are given in nearly all text-books, may be employed to confirm the presence of tartaric acid.

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* Bloxam's Chemistry, p. 292.

Now, to test cream tartar is an easy matter. Merely boil it with solution of sodium carbonate. It ought all to dissolve, except a very slight residue of calcium carbonate, five per cent. of *calcium tartrate* being allowed by U. S. P. If any alum is present, it will immediately be detected by the odor of ammonia, and by a precipitate of aluminium hydrate.

The next sample for analysis is found among the preparations of the U. S. P. It is not adulterated, but contains small amounts of substances liable to be present from carelessness in manufacture. It will require careful work, but is, on the whole, easier than the sample just sent.

ANSWERS TO STUDENTS.

"SPERO," "MARANTA," AND "GYPSUM."—In testing for calcium with ammonium oxalate, you were led to suspect the presence of much calcium because of the *great delicacy* of the test. A watery solution of calcium sulphate contains about one part in five hundred, yet this gives quite a heavy precipitate with solution of ammonium oxalate. You found much sulphuric acid in the insoluble residue because it was imperfectly washed.

"J. S."—Attfield's Chemistry is one of the best, and for analysis either Douglas & Prescott's Qualitative Analysis, or Fresenius' Qualitative Analysis. Fresenius' is in the old notation, the others in the new. They may be procured of William Wood & Co. Your question is answered in July article, I think.

"ELIXIR."—Potassium iodide would precipitate salts of silver, mercury, and bismuth, if present, as well as lead. The best plan is to precipitate in acid solution with hydrosulphuric acid gas, dissolve the lead sulphide in hot dilute nitric acid, and precipitate the solution by dilute sulphuric acid and alcohol.

"JUNIOR."—Your best way is to write to the president or secretary of either of the colleges named. They will send you all the information desired. Both schools are good. Attfield's Chemistry, seventh edition, is worth in cloth, $2.75; in sheep, $3.25.

Candidates are requested to write on one side of their paper only, and to take separate sheets for other communications.

NOTES, QUERIES AND ANSWERS.

[*Under this heading we shall, to the best of our ability, endeavor to answer such questions addressed to us as come within the scope of this journal, provided they are accompanied by the name and address of the writer. Answers to queries received after the 5th of the month will lie over until the next issue.*]

◆

Dyeing and Printing. (Ed. R., Staten Island).—There are a large number of works treating on these subjects. For your especial purpose, however, we would particularly mention the following, which is exceptionally complete:

Schützenberger, P., Die Farbstoffe, mit besonderer Berücksichtigung ihrer Anwendung in der Färberei und Druckerei. 2 vols., with illustr. and printed musters. 8vo. Berlin, 1870. M. 20.00.

Detection of Fuchsine in Wine. (S. McA., Cincinnati).—Among the many methods proposed to detect fuchsine in red wines, that of Pasteur and Wurtz is probably the simplest. 4-5 c.c. of the suspected wine are made alkaline with solution of caustic baryta, the liquid is filtered, the filtrate acidified with acetic acid, whereby rosaniline (which had lost its color through the presence of baryta) is converted into rose-red acetate of rosaniline, and the liquid is shaken with amylic alcohol (pure fusel oil). The least trace of fuchsine (limit 0.0025 gm. per litre) is recognized by the tint imparted to the layer of amylic alcohol.

To preserve Fruits (F. E. Y., Troupe, Texas).—Specimens of fruits may be preserved in various ways. Presuming that you intend to keep them in their natural condition, without immersing them into liquids, you may *try* Chevet's method, which consists in placing the fruits into a suitable vessel in tiers, so that they do not touch each other, and filling the interstices between the fruits and between the different layers with sifted fresh slaked lime. Our experience, however, does not enable us to speak of this method with confidence. Another method, which appears to be as perfect as can be desired, and only rarely alters the natural colors, has been indicated on page 267 of our last volume. It consists in placing *sound* fruit, which had best be arranged in layers, without touching each other, into glass jars, or other suitable vessels, and introducing into the jar a small quantity of carbon disulphide, about 1 ʒ for every half-pound of fruit. The jar is then to be hermetically closed, and kept in the dark. On opening the jar, the fruit is to be aired for a short time, so as to remove the acquired odor. Salicylic acid does not destroy vegetable colors; indeed, it appears to preserve them, and it has been successfully used for retaining the natural colors of dried plants. See NEW REM., v., 327.

Alcohol in Oil of Lemons. (G. H. Ph., Unadilla, N. Y.).—Various processes have been recommended for detecting alcohol in essential oils. Some of these (by means of potassium, shaking with water, etc.) you will find in the U. S. Dispensatory, under the heading Olea Volatilia. More recent is the method of Stefanelli (NEW REM., v., 10), lately revived by H. Draper, to employ certain aniline colors. Methyl-aniline salts (Hoffman's Violet), or acetate or muriate of rosaniline (Fuchsine, Magenta), are found to be perfectly insoluble in most essential oils, when free from moisture (except perhaps oil of peppermint, caraway, rose, and almonds); but the presence of a small quantity of alcohol immediately caused a more or less deep coloration of the oil.

Elixir of Gentian and Tr. Ferri Chlor. (G. F. R., Beverly, Mass.)—Gentian does not contain tannin; hence, iron-salts do not produce a dark coloration. Try this formula:

Extract of gentian..............	256 grs.
Water, hot......................	1 fl. oz.
Simple elixir...................	14 fl. oz.
Tr. ferri chlor. (tasteless)........	1 fl. oz.

Dissolve the extract in the water, add the elixir, and finally the tincture.

Formulæ for Elixirs. (H. J., Lyons, Mich.)—There is no special work published on elixirs and effervescent salts. By consulting the pharmaceutical journals of the last few years, you will find a host of formulæ. We have ourselves published a number in our last year's volume, and on page 62 of our last February number. In future we shall give others, as occasion may call for.

Emplastrum Manus Dei. (E. L., Baltimore.)—This plaster, which may be translated as "God's Hand Plaster," has been officinal in the Danish Pharmacopœia, and is prepared as follows: Compound lead plaster 190, cerate of verdigris 10 parts; melt gently. Or else as follows: Lead plaster (simple) 180 parts; melt and add verdigris 5 parts; heat until the mass has changed from a red to a blackish color, then add white wax 40; galbanum, ammoniacum, olibanum, of each, in powder, 5; powdered mastic and myrrh, of each 1.25 parts. Form the plaster, while soft, into rolls.

Grahe's Test for Alkaloids in Cinchona Barks. (W. P. S., Louisville, Ky.)—Grahe, of Kasan (Russia), has found that any cinchona alkaloid, or any bark containing one or more of them, when heated in a glass tube in the presence of a volatile acid, or of substances capable of producing a volatile acid, evolves heavy vapors of a beautiful crimson color. Even the smallest fragment of a cinchona bark, *provided it contains alkaloids*, affords these vapors. On the other hand, the reaction fails with all other barks, and even with cinchona bark destitute of alkaloid.

Alum and Lead Acetate. (J. O. H., Gibson City, Ill.)—This correspondent says: "Having occasion to mix powdered alum and powdered sugar of lead for an ointment, in triturating both the salts together in a *dry* mortar a very *soft* mass was formed. What is the cause of this?"—Alum is a double sulphate of aluminium and potassium (or ammonium). In a crystalline state it contains a large quantity of water of crystallization, and this water is of course also retained in powdered alum. Ammonia alum ($AlNH_4(SO_4)_2,12H_2O=454.3$) contains 47.63 per cent. of water of crystallization or constitution, which forms an intrinsic part of the compound, and is not visible as water. Now, on bringing a substance like lead acetate, or barium chloride, etc., which has a great affinity for the sulphuric acid, in contact with the alum, an interchange of elements takes place: the acetic radical of the lead salt unites with the ammonium and aluminium of the alum, and the sulphuric radical of the latter unites with the lead. The new salts formed, however—namely, lead sulphate and the acetates of ammonium and aluminium—are incapable of binding the water, originally present, in a solid molecule; in other words, there is more water present than is required to enable the new compounds to crystallize. Hence, the mass is liquid.

Patchouly. (O. W., Rochester, N. Y.)—Patchouly leaves, from *Pogostemon Patchouli*, nat. ord. Labiatæ, may be obtained from any wholesale drug house, at about $0.90–1.00 per pound.

Pharmaceutical Dictionary. (J. S. R., Ont.)—The German-English part of *Rudolphy's Chemical and Pharmaceutical Dictionary*, 8vo, Chicago, 1877, $5.00, will answer your purpose best.

Colorless Tincture of Iodine (F. F. Y., Independence, Kans.)—Any preparation of iodine, which does not exhibit the peculiar *color* of iodine of a greater or lesser depth, does not contain it in a free state. A solution of iodine in alcohol, or in water, best with a trace of an iodide, shows a characteristic color; as soon as this color has been destroyed by any means whatever, the iodine has entered some combination. We do not, however, mean to say, that such decolorized solutions are inert. Curtmann's Formula for preparing it is: Iodine, 10 drachms; alcohol, 13 fl. oz.; stronger water of ammonia, 3 fl. oz. The solution then contains: ammonium iodide (and perhaps iodate), ethyl iodide, and an ethylammonium iodide. In place of the ammonia, a sufficient quantity of a solution of sodium hyposulphite may be used. Darling has shown that iodoform is one of the products of the first-mentioned formula.

Ceresin and Ozokerite (B. &. M., N. Y.)—You may obtain these, either in bulk or manufactured, from Messrs. H. K. & F. B. Thurber & Co., Reade St. and West Broadway, N. Y., or from the Allan Hay Co., 1179 Broadway, N. Y.

Magenta (W. J. W.)—We have failed to find any foreign admixtures in the sample of magenta you sent us, and we cannot imagine what led you to think that it was impure. Perhaps you are not aware that the products of various aniline factories differ slightly in their degree of solubility; this is probably owing to slight variations in the original starting-point, as well as to different methods of manufacture. The *pure* aniline salts, of course, are identical in properties, no matter where prepared. The commercial salts need not be *pure;* as long as they have not been tampered with, and have the proper tint and solubility, they may be considered satisfactory.

W. C. R. (Mt. Carmel, Ill.), and **Country Chemist** (Kenosha, Wis.)—Your queries are under consideration.

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Limousin and Lebaigue some years ago proposed that all colorless poisonous substances should be artificially colored by fuchsine, to prevent accidents. This would certainly be an excellent way of preventing such poisons as arsenious acid ("white arsenic") to be mistaken for harmless powders, as has happened quite frequently of late.

NEW PATENTS AND LAWS.

[*We will furnish gratis, to subscribers, any information relating to new patents which can be obtained from the Official Gazette of the Patent Office; and for 50c. will give copies of the drawings of such as are illustrated. Electrotypes of the illustrations contained in* NEW REMEDIES *will be furnished for 50c. per square inch.*

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TRADE-MARKS REGISTERED IN U. S. PATENT OFFICE.

June 5th.

Medicines and Chemicals.

4,697. Pennsylvania Salt Manufacturing Co., Philadelphia, Pa. "Saponifier."

4,701. Smith, Klein & Co., Philadelphia, Pa. "Magnetic."

4,706. Edward Heaton, New Haven, Conn. A border representing infants' and children's heads (Infant's food).

4,707. Edward Heaton, New Haven, Conn. A central coat-of-arms, showing an American shield in the centre, a blazoned crescent above, and the whole surmounted by a crown enclosed by a wreath (Ibid).

Soap.

4,694. Bowen & Cunningham, Leavenworth, Kans. "Water Queen."

June 12th.

Medicines and Toilet Preparations.

4,714. Dundas Dick, New York, N. Y. "Docuta."

4,715. Helen F. Fairbrother, New Bedford, Mass. "Ongentine."

4,719. John B. Marchisi, Utica, N. Y. The figure of a woman, as described, and fac simile of signature of John B. Marchisi.

4,728. Dundas Dick, New York, N. Y. The fac simile signature of Dundas Dick & Co. upon the monumental background described and shown, the oval containing a coat-of-arms, and the label arranged in five compartments, as shown, the whole being used in connection with the words Dundas Dick & Co.'s Machinery-Improved Capsules.

4,729. Earl & Gamage, Boston, Mass. The figure or outline of a linear representation of a star, with the points of a star alternately overlapping and underlapping a linear representation of a hexagonal band.

4,730. C. Edmond Fougera, Brooklyn, N. Y. "Eau Angelique."

4,732. Charles Lediard, New York, N. Y. The word-symbol "Zulu," used in connection with the word "water," both words printed in white upon a black ground, and contained in an ornamental scroll or band, as shown.

4,738. Rebecca F. Payne, Philadelphia, Pa. "An engraved figure representing the head and face of a duchess, with head-dress indicating the insignia of the position of such a personage, printed on my labels immediately underneath the word-symbol 'Duchesse,' and above the words 'Centennial Cream.'"

Paints.

4,720. Southern White Lead Company, St. Louis, Mo. "Southern Company."

4,721. J. W. Walker, Bros. & Co., Cincinnati, Ohio. "The words J. W. Walker, Brothers & Co., and the figure or symbol of a diamond enclosing a series of oblique and vertical bands, and the small superposed diamond.

June 19th.

4,757. Lafe Graff, New York, N. Y. "The representation of a clock-dial." [Soap-making preparation].

June 26th.

Medicinal Preparations.

4,759. Gardner F. Badger, East Orange, N. J. The word-symbol, "Vigorine."

4,774. Loren B. Lord, Burlington, Vt. The fac-simile of the autograph of Henry Baxter, M.D., on one side of and in connection with a label, which is enclosed within an ornamental border, and containing a shield formed by four braces, upon which rests the representation of an eagle with extended wings.

4,775. Charles R. Martin, Sulphur, Ky. The representation of a hog and my monogram, C. R. M. [Hog-cholera remedy.]

4,784. James S. Talbot, Boston, Mass. The fanciful words, "Our Dumb Animals' Friend."

4,785. Crooks & Hatcher, Zanesville, Ohio. The word "Embalsamar."

4,771. James K. Ish, Omaha, Neb. The symbol of the eagle and mortar, and the word "Golden" used in connection with the word "Ginger."

Soaps and Chemicals.

4,777. Monteath & Co., Albany, N. Y. The word-symbol "Empress" used in connection with the word "Soap."

4,788. Holme & Fuller, Hartford, Conn. The word-symbol "Charter Oak." [Soap.]

4,971. John M. Jones, Jersey City, N. J. A shield divided by one perpendicular line through the centre, with two chamois (one on each side of said perpendicular line) standing erect on one hind foot, as if in the act of leaping, etc.

4,792. Lake Guano and Shell Fertilizer Co., New York, N. Y. Pictorial representation of a conch-shell with a cluster of fruits and plants, indicative of the products of the United States, issuing therefrom.

4,793. Rumford Chemical Works, Providence, R. I. The word-symbol "Horsford."

* * *

PATENTS.

June 5th.

Bottle-stoppers, C. de Quillefeldt (re-issue)	7,722
Hydrocarbons from substances which have been treated therewith, extracting, W. Adamson	191,633
Lubricator, C. H. Parshall	191,707
Medicine Case, J. C. Millard	191,607
Mineral-wool, process and apparatus for treating, A. D. Elbers	191,524
Oil-can, D. Bennett	191,642
Preserving, drying, and bleaching fruit, composition for, J. R. Dodge, Jr	191,661
Pumping fluids from casks, etc., apparatus for, W. F. Class	191,656
Quicksilver condenser, R. F. Knox	191,687
Sugar in centrifugal machines, apparatus for liquefying hard, O. H. Krause	191,535
Sugar, washing raw, F. O. Matthieson	191,539
Ventilation and disinfection of buildings, W. H. Bennett	191,512

June 12th.

Animal matter, treating and drying, W. C. Marshall (re-issue)	7,742
Carbon in retorts, preventing the accumulation of, W. Karr (re-issue)	7,739
Carbonic acid gas generator, O. Zwitusch	191,912
Druggists' prescription file, C. G. Stromberg	191,783
Eye-glass, G. Johnston	191,972
Eye-glass holder. S. F. Merritt (re-issue)	7,743
Gas, manufacturing carburetted hydrogen, J. H. Bowman	191,749
Heating and ventilating buildings, W. F. Flagg	191,952
Hydrocarbon oils, process and apparatus for the manufacture of deodorized heavy, J. Merrill (re-issue)	7,733
Insect-powder, blower for, W. F. Brammer	191,795
Liquid measure, W. K. Johnston	191,971
Lubricator, A. S. Skinner	192,025
Mercury condenser, Long & Castle	191,805
Mucilage holder, J. V. Browne	191,751
Sugar-purging apparatus, automatic, C. Plagge	192,004
Sulphurous anhydride, manufacturing, R. P. Pictet	191,778
Surgical tube, india-rubber, E. Pfarre	191,879
Syringe, J. S. Parsons	191,775
Thermometer, F. Stohlmann	191,897
Vapor bath, G. W. Walker	191,905

June 19th.

Bathing apparatus, W. J. Hill	192,164
Bottle-stopper, H. N. Gale	192,262
Demijohn case, C. Newman	192,182
Dental plates, teeth, etc., manufacture of porcelain adapted for, A. B. Cady	192,149
Exercising machine, J. McLaughlin	192,271
Filter, H. W. Watson	192,103
Filter, self-cleaning, H. W. Watson	192,313
Lubricator, S. Rushworth	192,193
Paints, etc., composition vehicle for, H. C. Crowell	192,056
Scale-pan, E. M. Whyler	192,207
Shoulder-brace, A. Adamson	192,106
Spectacle frame, W. H. Peckham	192,125
Truss, J. R. Alexander	192,141

June 26th.

Blow-pipes, Daniel R. Porter	192,452
Chest-protecting garment, C. A. Fuller	192,366
Copper and precious metals from copper mat, separating, W. B. Young	192,401
Crucibles, compound for the manufacture of, H. Wile	192,398
Crucibles, manufacture of, Park & Hay	192,345
Door and drawer plate, F. H. Seymour	192,533
Evaporating-pan, G. T. Jones	192,376
Exercising machine, W. M. Marshall	192,338
Funnels, measures, etc., stand for holding, S. M. Preston	192,348
Inhaler, J. B. de Guise	191,488
Oil-can, J. F. Coppel	192,486
Vanilline, manufacture of, F. Tiemann	192,542

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TRADE MARKS.

June 5th.

1,080. "Dr. Church's Vegetable Liver Pills." W. C. & G. C. Fisher, Patoka, Ind.

1,081. "Imperial Granum." Edward Heaton, New Haven, Conn.

1,082. "Imperial Granum." Edward Heaton, New Haven, Conn.

1,083. "Ingram's Great Radical Rheumatic Remedy." John Ingram, St. Louis, Mo.

1,084. "Yalobusha Tonic." M. H. Sharpe, Cofferville, Miss.

June 12th.

1,085. "Malt Monseaux." Magnus Frank, New York, N. Y.

1,087. "Lewis' Hemorrhage Cure." Phebe L. D. Thomson, Chicago, Ill.

June 19th.

1,089. "Holman's Ague and Liver Pad." Holman Liver Pad Company, New York, N. Y.

1,090. "Holman's Fever, Ague, and Liver Pad." Holman Liver Pad Company, New York, N. Y.

June 26th.

1,099. "Potato-Pest Poison." The Lodi Chemical Works, Lodi, N. J.

1,101. "Elixir Theobroma Comp." C. B. Woodworth & Son, Rochester, N. Y.

PRESCRIPTIONS AND FORMULÆ.

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Standard Formulæ for Certain New Preparations.

(Continued from page 222.)

43. *Narceina* ($C_{28}H_{29}NO_9 = 463$).

To the mother-water left after the crystallization of morphia and codeia from opium liquors (Gregory's process), ammonia is added, which causes a precipitate of narcotine, thebaine, and a resinous matter; to the filtered liquid a solution of lead acetate is added, whereby a new precipitate is produced. After filtration an excess of sulphuric acid is added to remove the lead from the filtrate; the latter is neutralized with ammonia and is cautiously evaporated until a pellicle forms. On cooling, a crystalline deposit forms which augments by standing. This, when thrown on a strainer, washed with cold water, and then boiled with a sufficient quantity of water to dissolve it, furnishes, on cooling, silky crystals of narceina. These crystals are again dissolved, decolorized by animal charcoal, and recrystallized. Finally they are treated with ether, to separate any accompanying meconine.

Narceina appears thus in form of fine prismatic needles, slightly soluble in cold water or alcohol; more soluble in boiling water, and very soluble in boiling alcohol, and almost entirely insoluble in pure ether. It fuses at 145° C. It does *not* reduce iodic acid, and is not colored blue by ferric salts. A solution of iodine, 2 parts in 1,000, strikes a fine blue color with it.

44. *Syrup of Narceina.*

Water, containing 6 gm. per litre of HCl, spec. grav. 1.16	100 gm.
Narceine	1 "
Water	250 "
Sugar	650 "

Dissolve the narceina in the acidulated water with heat, add the other water and the sugar so as to form a syrup which contains 10 centigrammes (0.10 gm.) of the alkaloid in 100 grammes, or 2 centigrammes (0.02 gm.) in a tablespoonful (20 gm.), or 5 milligrammes (0.005 gm.) in a teaspoonful (5 gm.).

45. *Pancreatin.*

Pancreatic glands, freed from all extraneous matters, are to be macerated in double their weight of water, previously saturated with chloroform to arrest decomposition. After some time the mass is thrown on a strainer, the residue expressed and the resulting liquids mixed. These are rapidly evaporated in a current of air in large shallow dishes at a temperature not exceeding 45° C. (113° F.).

Ten centigrammes (0.10 gm.) of pancreatin, added to 5 gm. of fibrin in 25 gm. of water, and heated at 50° C. (122° F.) dissolve and transform it completely. The filtered solution should at most only show a faint cloudiness on adding nitric acid. 10 centigrammes (0.01 gm.) of pancreatin, added to 100 gm. of starch-paste (containing 5 gm. starch) give a liquid, which runs rapidly through a filter and is capable of reducing four times its volume of Fehling's standard solution (NEW REM., v., 93).

46. *Bibasic Nitrate of Mercury, or Turbith Nitrate.*

($Hg(NO_3)_2, Hg_2O + H_2O$.)

Crystallized neutral mercury nitrate	1 part.
Boiling water	10 parts.

Powder the crystals as fine as possible, and stir them into boiling water, with constant agitation. As soon as the powder has become greenish-yellow, let it deposit; decant the supernatant liquid, and wash the precipitate several times with cold water. Dry it and preserve it in the dark.

Turbith Nitrate is a pale greenish-yellow powder, insoluble in water, but entirely soluble in pure nitric acid. Potassa turns it black. On igniting it strongly, it emits reddish fumes, and vapor of mercury, leaving no residue.

47. *Mustard Paper.**

The preparation of paper sinapisms requires two indispensable conditions: 1. The employment of powdered mustard *entirely* deprived of all fatty matter. 2. The use of an adhesive liquid, which contains neither water nor alcohol, nor resin, nor fatty matters.

Powdered mustard is deprived of its fat or oil by means of carbon disulphide, or petroleum benzine. The adhesive liquid consists of a solution of 4 or 5 parts of caoutchouc in 100 parts of a mixture of carbon disulphide and petroleum benzine. By means of a plaster-spreading apparatus a uniform coat of this solution is applied to paper. As the latter passes out from under the apparatus, a sieve containing the powdered mustard is shaken over it, which latter is fixed by the adhesive coat and firmly retained after the evaporation of the volatile liquids in a warm place. The application of the powdered mustard must be properly regulated according to the speed with which the machine delivers the coated paper. [This is a very simple matter, when using the common small hand-machines.]

The paper is cut into pieces of convenient size, and needs only to be wetted to be ready for use.

Transparent Gout-Paper. (*Pharm. Zeit.*)

Tissue-paper is covered with a solution of 1 part of amber-lac and 6 parts of benzoin; when dry the following is applied: Euphorbium, 30 parts; cantharides, 15 parts; stronger alcohol, 300 parts; digest three days, filter, and add Venice turpentine, resin, and pitch, of each 15 parts. If necessary, this solution may be diluted with some more strong alcohol, and should be applied with a broad brush.

Another formula is: Cantharides 15, euphorbium 4, strong alcohol, 240 parts; digest a few days, filter, and add pitch 180; dissolve with a gentle heat, and add Venice turpentine 6 parts, and enough tar to color the mixture brown. This is spread two or three times upon tissue-paper by means of a sponge, and when dry, the back of the paper is coated with oil of lavender.

Mistura Guaiaci Viridis. (B. H.)

℞ Potassii iodidi	ʒ iij.
Tr. guaiaci ammoniatæ	fl. ℥ ijss.
Aquæ	fl. ℥ iij.
Extracti fl. dulcamaræ, q. s. ad	fl. ℥ viij.

Dissolve the iodide of potassium in the water, add the tincture in portions, and shake well together until a clear green mixture has been produced, with separation of most of the gum-resin. Then strain, and add the fluid extract. Dose, in gout or rheumatism, one to two teaspoonfuls.

Antiseptic Vinegar.—The following formula for antiseptic vinegar is given by M. Pennés:

Salicylic acid	300 grammes.
Acetate of alumina	300 "
Tincture of eucalyptus globulus	1,000 "
" verbena	900 "
" lavender	1,000 "
" benzoin	100 "
Acetic acid ("No. 8")	1,000 "

Mix thoroughly with the requisite precautions, shake frequently during two or three days, and filter.

This vinegar may be used either pure or diluted as a lotion.

Five litres injected into the carotid will preserve a cadaver several months. In the form of spray it is recommended as an admirable disinfectant for the sick-room.

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Error in the British Pharmacopœia.—Notwithstanding the care with which this Pharmacopœia is revised at short intervals, an important mistake has lately been pointed out on page 180, in which, in the formula for liquor arsenicalis, five fluid *ounces* of compound tincture of lavender is directed to be used instead of five fluid drachms—the latter being the correct quantity.—*Med. Press and Circular.*

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* See NEW REMEDIES, v., 330.

ITEMS.

American Pharmaceutical Association.—The twenty-fifth annual meeting will convene at the City Council Chamber, Toronto, Canada, on Tuesday afternoon, Sept. 4th, at 3 o'clock. Associations entitled to *delegations* will please use the credential blanks which are obtainable from the undersigned, and delegates will report promptly on the opening of the first session.

Goods intended for the *exhibition*, to be held at the same time, should be addressed to the Local Secretary, M. Henry Rose, who should be informed of the space required, by or before August 15th. He has kindly offered to exert himself in disposing of American goods to the best advantage. Goods from the United States will be admitted in bond, and may be reimported *free of duty*, if they are of the *growth, produce, or manufacture of the U. S.*, according to Sec. 2505, R. S. The regulations of the Treasury Department, Art. 374, facilitate the re-entry of such goods if brought back to the port of original exportation; E. S. Nichols, Esq., Dep. Collector at Suspension Bridge, writes that any person having charge of the goods may attend to the necessary formalities.

The *headquarters* at Toronto will be at the *Rossin House.*

The following *travelling arrangements* are proposed:

Via Watkins and Seneca Lake to Niagara Falls, and return by New York Central R.R. via Albany and Day Line steamers to New York. Round-trip tickets by steamers on Lake Ontario, between Suspension Bridge and Toronto, may be had at $2. Some members will extend their trip, returning via Clayton (Thousand Isles), and Trenton Falls; others via Montreal, Lake Champlain, and Lake George; and others by Montreal, the White Mountains, and Portland.

It is proposed to leave on Wednesday, Aug. 29th, Baltimore and Philadelphia at 7.20 A.M.; and Harrisburg at 10.50 P.M.; arriving at Watkins at 6.20 P.M. Members of the Western, Southern, and Middle States can make close connections and obtain round-trip tickets at the principal stations of the Pennsylvania R. R. and connecting lines. Members from New York and vicinity can meet the same train, or, by taking the Erie R. W., meet the other party at Elmira, or next morning at Watkins. Headquarters at Watkins will be at the *Glen Mountain House;* Thursday and Friday will be spent in visiting Watkins' Glen, Havana Glen, and Hector Falls.

Leave Watkins Saturday morning, arriving at Niagara the same evening. Headquarters: *Cataract House.* Tickets for several interesting places may be obtained at reduced rates at the store of our fellow-member, Hiram E. Griffith.

A special reduction of $5 on each ticket has been made from the points mentioned below for the trip, returning by way of Lake Champlain. Members and delegates may obtain tickets for themselves and families from S. Carpenter, 526 Broadway, *New York;* 11 South Broad St., *Philadelphia;* corner Baltimore and Calvert Sts., *Baltimore;* Pennsylvania Ave. and 6th St., *Washington, D. C.;* and Exchange Hotel, *Richmond, Va.*

A suitable reduction from regular charges has been obtained at the three hotels mentioned.

Toronto may be reached by 1.30 P.M. on Tuesday, in time for the first session.

Members living on the line of the Great Western or Grand Trunk Railway may obtain tickets to Toronto and back at one and one-third fare.

Reports, Papers, and *Applications* for membership, may be sent to the undersigned by August 25th.

JOHN M. MAISCH,
Permanent Secretary.

PHILADELPHIA, August 1, 1877.

The Tariff on Drugs and Chemicals.—The following circular has been received by us, accompanied by a list of the leading manufacturers of chemicals in the country. It expresses so clearly the views held by this class of the community on the question considered, that it will be a matter of general interest:

DEAR SIR—We (the Committee on Tariff Legislation, appointed by the Manufacturing Chemists' Association of the United States) do not desire, at this time, to enter into any discussion of Free Trade or Protection to Home Industries.

The object in addressing our fellow-citizens at present is simply to call attention to the fact that it has been proposed to place all chemicals and medicinal preparations on the free list, and yet continue protective duties on agricultural products and manufactured goods in general.

We claim that the manufacturing chemists have equal rights with all other citizens of this country. They have many millions of capital invested in business, give employment to large numbers of workingmen, and pay the same wages, the same rates of interest for the use of money, the same prices for silk, cotton, and woollen goods, iron and steel, cutlery, leather, salt, food, etc.; the same taxes, municipal, State, and Government, as others do.

If the tariff is to be for revenue only, regardless of protection, we must accept the change in policy, and expect to have many chemical products, made abroad, admitted here duty free.

If, on the other hand, the tariff is to be for protection as well as revenue, and if wheat, corn, oats, silks, cottons, woollens, salt, leather, sumac, cutlery, iron, and steel, grindstones, emery ore, coal, lumber, carriages, etc.—in fact, everything produced in this country—are to be protected by duties imposed on like products sent here from abroad, then we claim that chemicals and medicinal preparations are alike entitled to protection.

We desire, therefore, to distinctly define our position, and to call the attention of those engaged in agricultural pursuits, *who are protected,* and to manufacturers in the various branches of industry, *who are also protected,* to the manifest injustice of selecting chemicals only from among all manufactured goods for the free list.

If we are to have protection, ALL are entitled to it. If we are to have free trade, let it be in food, clothing, tools, machinery, etc., as well as in chemicals and medicinal preparations; and to this end we shall feel bound, in self-defence, to use our united influence.

We ask only for equal rights, and protest against having a policy applied to us (as was proposed at the last session of Congress) totally at variance with that designed for all others.

Respectfully,

ALEXANDER H. JONES, }
ALBERT F. DAMON, } *Philadelphia.*
HENRY BOWER, }
GEORGE M. OLCOTT, *New York.*
ALEXANDER COCHRANE, *Boston.*

Issued by order of the Manufacturing Chemists' Association.

THOMAS I. HARRISON,
President.

HENRY BOWER,
Recording Secretary.

The Michigan State Medical Society at its recent meeting adopted the following expression of its opinion:

Whereas, There is a bill before Congress to remove the tariff on quinine; and

Whereas, By the tariff a few men are enabled to get up a corner on quinine and increase the price of that drug; and

Whereas, Especially the poor and the sick suffer when quinine is very expensive, as the consumer must pay for the drug, whatever the price, there being no reliable substitute for this extensively used therapeutic agent;

Resolved, That it is the sense of the Michigan State Medical Society that the bill to remove the tariff on quinine, now before Congress, should pass that body.

Resolved, That the Secretary be instructed to send a copy of these resolutions to the Senators and Representatives in Congress from this State.

Opium Consumption in the United States.—The recent heavy importations of opium at this port have led to considerable comment, and various causes have been assigned. The following figures, showing the amounts imported during the present year, and its cost, were recently obtained at the custom-house and reported in the *Tribune:*

	Pounds.	
January	16,577	$80,761
February	5,100	26,196
March	7,304	34,951
April	1,800	9,000
May	29,576	125,291
June	50,000	275,000
Totals	110,357	$551,199

During the first week of July, 51 packages were received, averaging 150 pounds each, at a valuation of $42,075. Said a heavy dealer: "When the war between Russia and Turkey broke out, a great speculative fever raged here, and scores of men with unemployed capital invested heavily, based on a probable war-tax by Turkey, or a closing of the port at which most of the opium is shipped. The price was thus run up to $8 gold in bond, or $9 in currency; but the port of Smyrna being so remote from the seat of war, the market has since declined to $5.50 gold, and most of the outside speculators lost their all in six weeks' time. One man, a very clever fellow, invested his last dollar. I urged him to sell when the top price was reached, assuring him of a profit of $20,000; but he persisted in waiting for more, and is now a bankrupt."

Smyrna and the contiguous country in Turkey is the commercial source from which this country draws its chief supply. The present crop is reported as unusually large, with a probable yield of 9,000 chests, or 1,350,000 pounds, which is largely in excess of last year. The following is reported as the receipts for two years at New York and Boston: 1875, 1,776 cases; 1876, 1,259 cases. The receipts at Philadelphia are unknown, but are set down at 500 cases a year, mostly used by two large houses for the manufacture of morphia. The new crop is now being gathered, and may be decreased or entirely destroyed by a cold snap or heavy rains. The task of gathering this year falls upon women, children, and old men, all the able-bodied men being off to the wars. Opium is now as low as it has been for twelve years, only once in that period having declined below $5 gold, duty paid, when there were several large crops in succession. The consumption in this country is about 2,000 cases, or 300,000 pounds a year. Wholesale druggists and those who deal in opium as a specialty, ascribe the large increase in the amount consumed in part to the heavy manufactories which have sprung up within a few years for the making of the tinctures and morphia. At the same time, they admit that a much larger amount enters into personal use than heretofore. "Notably is this the fact," said a dealer, "in the Southern States. Since the close of the war, men once wealthy, but impoverished by the rebellion, have taken to the use of opium to drown their sorrows." In South America and California a large amount of opium is also consumed, owing to their great coolie population. It is further conceded that in certain quarters of this city, on Baxter, Division, Water, and other neighboring streets, it is used to an almost alarming extent. One retail druggist on Division street does a very large business in this line, retailing it in small quantities, from five cents a dose up, and every few moments poor, half-stupid men and women may be seen emerging from his rear door with cups and tin vessels containing the black paste which is to furnish them hours of forgetfulness. Some few manufacturers employ opium in the preparation of a bogus Turkish smoking tobacco or cheap cigars, which are mostly used by the Chinese.

A new oil-yielding fruit, known as Guzerat seed, has just been introduced into commerce from the East Indies. Extensive trials at a Dantzic oil-mill have given most satisfactory results, 2,000 lbs. of the seed yielding 730 lbs. of oil, or about 70 lbs. more than is obtained from the same weight of rape. Professor Birner is about to investigate the value of cake made from the seed as food for cattle.

The Maine State Pharmaceutical Association held a meeting at Portland on the 11th of July. Resolutions were adopted protesting against the existing laws governing the practice of pharmacy in the State, and the members of the drug trade within the State who had not already joined the Association were urged to become members. The existing officers of the Association were re-elected for another term, and are as follows: *President*, Charles K. Partridge, Augusta; *Vice-President*, A. G. Schlotterbeck, Portland; *Secretary and Treasurer*, H. Boynton, Biddeford. *Executive Committee:* H. G. Cummings, M. D., Portland; J. Q. A. Hawes, M.D., Hallowell; H. S. Harlow, Bangor; George Frye, Portland; A. G. Schlotterbeck, Portland; H. Boynton, Biddeford. *Business Committee:* John G. Cook, Lewiston; Seth D. Wakefield, Lewiston; A. Robinson, Auburn.

A committee of ten was appointed to suggest some plan for pharmaceutical legislation and report at the annual meeting. Another committee of five to revise the By-laws of the Society and Constitution will report at the same time. Thirty-five new members were elected.

On the first day of the meeting the gentlemen present were guests of the Portland druggists at a clam-bake, which was so successful that it was resolved that a social gathering of the same kind should take place every year, and a Committee on Annual Excursions was appointed to provide for it.

The bill of fare prepared for this occasion was quite an original conception, and filled with local "hits," which added to the fun and facilitated digestion.

One of the best puns of the occasion appeared in the report of proceedings by the daily paper, in which the members of the Association were referred to as the "Pillers of Society."

Neutral Salts.—*Punch* defines "neutral salts" as British sailors.

Prof. T. J. Heard has resigned the Chair of Materia Medica and Therapeutics and Clinical Medicine in the University of Louisiana, and

Prof. J. B. Eliot has been elected to fill the vacancy.

Sir Robert Christison has resigned the Chair of Materia Medica in the University of Edinburgh.

The German Apothecaries' Society has requested the Chancellor of the Empire to take the necessary steps for organizing a standing Pharmacopœia Commission, to consist of physicians, chemists, pharmacognosists, and pharmacists, to form a bureau of the national Bureau of Public Health. This commission is to subject the present Pharmacopœia Germanica to a revision, and afterwards to amend, augment or contract its scope whenever necessary. All propositions for changes of any kind are to be submitted to it, and it is to be the permanent guardian of the work.

Fast Tea-Ships.—The steamer Loudoun Castle, which arrived on the 3d of July in London, with the first cargo of the new tea-crop, made the voyage from Hankow to London in the short time of 38 days and 11 hours. This is the fastest time made by any sailing vessel running between China and England.

Rhamnus Frangula bark is likely to become a scarce article soon. Being in great demand for preparing charcoal for gunpowder in England, the bark is imported from Germany and is likely to run short.

The Kew Herbarium contains over a million of specimens of dried plants.

Iron-sponge Filters are recommended, even as superior to charcoal-filters for removing organic impurities from drinking water. They consist of spongy metallic iron, prepared without fusion, and remain much longer active than any other. They were first proposed by Prof. Gust. Bischof in Glasgow, and may be had from Leybold in Cologne, and E. Voss in Hamburg.

Mortars, Evaporating Dishes, and funnels of hard glass are manufactured by Julius Fahdt, Alma-works near Gr. Raeschen, Ober Lausitz, Germany.

NEW REMEDIES.

AN ILLUSTRATED MONTHLY TRADE JOURNAL OF
MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

VOL. VI., No. 9, WHOLE No. 39.

FRED'K A. CASTLE, M.D., - - EDITOR.
CHARLES RICE, - - ASSOCIATE EDITOR.

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PUBLISHERS' NOTICES.

TO THE PAINT AND OIL TRADE.

THE druggists throughout the country, who are the chief dealers in paints and oil, rarely subscribe to more than one trade paper, and that, almost invariably, is one specially devoted to drugs and medicines, from which they usually obtain all the information they require in the abbreviated price lists published by them. This journal, the most popular of its class, has probably a larger circulation among these dealers than any other. An advertisement of paints, oils, varnishes, etc., in its pages is seen by a much larger number of the legitimate customers of the paint trade than it can be elsewhere. If it is desired to reach the manufacturers, importers, or large jobbers of paints and oils, there are other papers of more frequent issue which are probably better for the purpose than this; but if it is wished to reach the greatest number of dealers—those who sell to consumers—then NEW REMEDIES is offered for consideration with confidence. The force of these statements will be apparent to all wide-awake business men.

AT this season novelties in druggists' sundries are in order. Any article of merit sent the editor will be illustrated and described in the appropriate department of this paper, without charge.

SUBSCRIBERS who may at any time receive specimen copies of NEW REMEDIES will advance the interests of the journal and confer a favor on the publishers by handing them to some friend in the trade who should subscribe.

EDITORIAL.

THE occurrence, so nearly together, of the meetings of the British Pharmaceutical Conference and the American Pharmaceutical Association, brings to us an embarrassment of riches in the shape of fresh matter for this number. In both instances the attendance appears to have been somewhat diminished by holding the meetings at the extreme limits of the territories rather than in more central localities, but more than corresponding advantages have resulted to the interests of both societies. The character of the papers was very creditable in each instance, and neither association appears to have suffered from an undue infliction of ethical discussions, although the right of druggists to prescribe, in the British Conference, and the question of revision of our Pharmacopœia, in the American Pharmaceutical Association, threatened the peace of the respective assemblies. The American Pharmaceutical Association have every reason for satisfaction with the choice of a president this year.

MR. WILLIAM SAUNDERS, of London, Ontario, President-elect, is well known by reputation to nearly all the pharmacists of the country. He is a native of Devonshire, England, where he was born in 1836, his first experience in pharmacy being when he was fifteen years of age, at which time he became an employee in a drug-house. Soon afterwards he came to this continent, and in 1855 he commenced business for himself at London, then a town of more than six thousand inhabitants, and situated in one of the richest agricultural districts of Upper Canada. His business as a dispensing apothecary, through skill and successful management, soon grew to leading proportions, and eventually a manufacturing branch was established, the products of which, in the shape of fluid extracts and other pharmaceutical preparations, are already well known and valued for their reliability.

Since Mr. Saunders became a member of the American Pharmaceutical Association in 1860, he has always been an active participator in its affairs, and his contributions, both to the published proceedings of the Association and to current pharmaceutical literature, have been highly esteemed for their practical character. He has held a number of positions in the Association, having been Vice-President for one term, Chairman of Committee on Papers and Queries, Chairman of Committee on Drug Market, Member of the Committee on the Centennial Exhibition, etc., etc. Among other positions, he has been elected Vice-President of the Ontario College of Pharmacy, Honorary Member of the British Pharmaceutical Conference, and of the New Hampshire Pharmaceutical Association. He is also the President of the Entomological Society and editor of the *Canadian Entomologist*, Corresponding Member of the Philadelphia College of Pharmacy, and Director of the Provincial Agricultural Association.

AMONG the noteworthy things which transpired during the meeting of the American Pharmaceutical Association at Toronto, were the assemblage of representatives of the teaching pharmaceutical colleges, and the mutual understanding at which they arrived in relation to the standard to be adopted for matriculation, the limiting of the time within which matriculation and the purchase of lecture tickets could take place, requirements for graduation, date of examinations, etc. Somewhat extensive regulations were adopted, which our limited space prevents our printing in this number. Two meetings were held, and a great variety of questions were discussed, relating to the management of pharmaceutical schools, methods of teaching, nature of instruction given, requirements, etc. Although there were marked differences of opinion upon some questions at the outset, harmony was at length arrived at, and the result of the combination of the schools will be an elevation of their character and standing as educational bodies.

We referred some time since to the establishment of a school of Pharmacy in connection with the Atlanta Medical College, and expressed our doubts as to whether the result would be the furnishing of adequate means for instruction to the students, or simply profit for the teachers. There is no doubt that the holding of the next meeting of the Association in Atlanta will have a beneficial effect upon the profession in that region, and the character of the school of pharmacy will share in the common advancement.

THE number of applications for samples for analysis, in competition for our monthly prize, is considerably greater than that of the answers we receive in return. We have thus far sent a sample each month to those who have once requested it; but, in the case of those who make no response, we shall discontinue this practice after the next issue has been made.

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

On the Decomposition of Ammoniacal Salts by Quinia.

MESSRS. CAZENEUVE AND CAILLOL, in the course of an article on the preparation of cinchonia (*Repert. de Pharm.*, 1877, p. 353), mention some singular results obtained by Professor Glénard, of Lyons, in his investigations on the chemical behavior of quinia and cinchonia, which make it possible to distinguish these two alkaloids from each other under the microscope. Quinia, mixed with distilled water, presents under the microscope an amorphous character, if it has been prepared from one of its salts by precipitation with a base. Cinchonia, under the same circumstances, likewise appears amorphous. But, on adding a drop of a solution of sulphate, oxalate or phosphate of ammonium to the mixture, almost instantly the quinia is seen to change into crystalline needles of sulphate, oxalate, or phosphate of quinia, while cinchonia remains unaltered. Further details are expected.

Citrate of Sodium and Potassium.

MR. TH. PUSH, of Dessau, Germany, has made a complete series of citrates, corresponding to the officinal tartrates, with a view of finding a stable compound. He ascertained that the double* citrate of sodium and potassium is an extremely stable compound, even when exposed to the air for a long time. He prepares the salt by dissolving 100 parts of citric acid in water, adding 108 parts of pure potassium carbonate and 221 parts of crystallized sodium carbonate, filtering, evaporating and crystallizing. The crystals are allowed to drain, and the mother-liquor is further concentrated, until, on cooling, it solidifies to a crystalline mass, which is used in the condition of powder.

The author, however, does not give the composition of the salt.—*Arch. d. Pharm.*, July, 1877, 47.

Canada Balsam as an Excipient for Pills.

THE objection raised by many physicians against old pills, which have become hard and almost or entirely insoluble in the stomach, led Mr. Dannecy, of Bordeaux, to search for a substance which would retain the pills permanently soft, and yet sufficiently solid to prevent them from flattening. He believes to have found this in Canada balsam, mixed with one-third of its weight of pure wax. This mixture has the property, even in small proportion, of binding together the component parts of the pill, of rendering hard substances soft, and of giving solidity to deliquescent bodies. He has prepared, by means of this excipient, pills of potassium acetate, containing 0.20 gm. (3.2 grains) each, and remaining entirely unaltered. All pills prepared in this manner become soft at a comparatively low temperature, and retain their ingredients unchanged.—*L'Union Pharm.*, 1877, 168.

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* While tartaric acid, $H_2C_4H_4O_6$, is a *bibasic* acid, citric acid, $H_3C_6H_5O_7$, is a *tribasic* acid. Hence, a neutral citrate of sodium and potassium must contain, in place of the H_3 of the acid, either Na_2 K, or Na K_2.

The Brazilian Wax-Palm.

THE Wax or Carnauba Palm of Brazil, is one of those useful plants which bountiful nature seems to have especially designed to supply a great many human wants. The natives inhabiting the extensive plateaus in the northern provinces of Brazil, which are covered with forests of carnauba trees, derive from it nearly all their means of existence and comfort. The wood, which is very light, but exceedingly hard, is used as timber for building houses, fences, and for making all kinds of household furniture and utensils; the leaves are used as a covering for roofs, and for beds, the leaf fibres are woven into mats, baskets, hats, and brooms; the leaf-stalk contains an elastic marrow answering the purposes of cork; the hollow stems of the tree are used as water-conduits; and the fruit-kernels, roasted, furnish an agreeable beverage, known as café de carnauba. But the most valuable product of the tree is the so-called *carnauba* or *carnahuba* wax (palm-wax), which has become a very important article of commerce, although it has only been in the market for about 30 years.

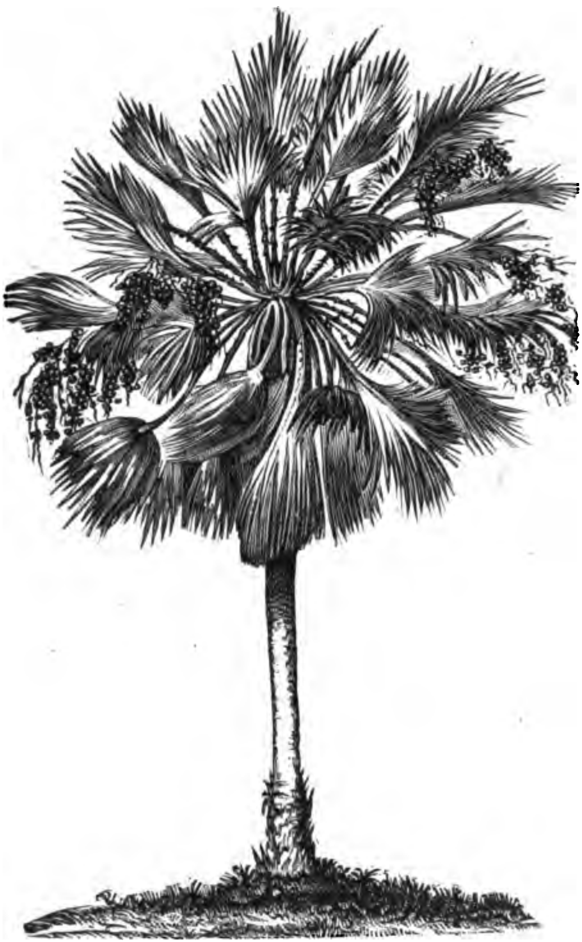

FIG. 1.—Copernicia Cerifera, Mart.

Copernicia cerifera Mart., *Corypha cerifera* Arr., natural family Palmaceæ, has a stem from 6 to 12 inches in diameter, and attains a height of 30 to 100 feet. The leaves arise from the extreme end of the stem, are of a bright green color, fan-shaped, and terminate at the apex in sharp points. The solitary flowers along the spadix are very small (see cut), hermaphrodite, with a three-petalous corolla, externally of a green, internally of a chestnut-brown color. The fruit (see cut) consists of an exterior slightly sweet pulp, which is considered a great delicacy, and is covered with a dark red or almost black skin. It encloses a round, hard seed containing an oleaginous almond-like kernel. The latter, when pounded, yields a sort of flour, forming an agreeable nutriment with milk, or a refreshing drink when mixed with water and sugar. The terminal leaf-bud, or so-called palm cabbage, is quite small, but extremely savory and nutritious, as it contains an abundance of fecula resembling sago.

The wax is secreted by scales situated in the axillæ of leaves, and is found on both surfaces of the scales, that on the upper surface readily detaching itself and falling to the ground, when the tree is shaken. This is, however, not the way in which it is collected; but the young leaf-buds and scales are cut off (leaving a portion standing for another harvest), dried for a few days in the sun, then cut into pieces and pounded until all the powdery part has fallen out. This is melted in earthen vessels with a little water, and then forms the crude carnauba wax. At Aracati, in the province of Ceará, the leaf-buds are collected in heaps, and covered with dry palm-leaves, to protect them from the northeast wind During a lull, which mostly takes place during the night, the various families collect round their respective heaps and perform the most delicate part of the wax manufacture, namely, the separation of the wax-powder. The men split the buds with knives, and hand them to the women, who carefully beat out the powdery substance with small sticks upon an outstretched cloth. It is then melted as stated above.

Carnauba wax has a bright yellow color, with a greenish shade, is harder than beeswax, melts at 84° C. (184° F.), and has a spec. grav. of 0.999. According to Nevil Story-Maskelyne,* it consists mainly of compound ethers of melissyl-alcohol, $C_{30}H_{62}O$, which may be obtained from it in considerable quantity by saponification; it also contains another alcohol, $C_{23}H_{48}O$, small quantities of resin, and a substance melting at 105° C. (221° F.), and having the composition $C_{39}H_{82}O_3$. But, according to Berard,* that portion of the wax which is soluble in alcohol is free cerotic acid, $C_{27}H_{54}O_3$, while the remainder corresponds to melissylic ether.

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* *Jour. Chem. Soc.*, vii., 87.

The wax is used, mixed with tallow, for the manufacture of candles, which are prepared in Brazil in a most primitive way. They have a yellow or even dark brown color, it being very difficult to deprive carnauba of its coloring matter. The wax is also extensively used in Europe and in the United States for preparing varnishes, waxed leather, candles, etc.

In the province of Ceará there are districts, especially along the river Jaguariba, which are completely covered with carnauba forests, sometimes extending over twenty square miles without a gap. These forests are a perfect blessing to the natives, especially during the dry season, from about July to November, as the carnauba palm is capable of resisting the most scorching heat and the longest drought, and the young leaves may be used by cattle.

The root of the tree has also been used medicinally, under the name *carnaulia* root. It is several feet in length, about three-eighths of an inch thick, with a thick, friable cortex of a mixed grayish and reddish-brown color. It is supposed by the natives to be an efficient substitute for sarsaparilla, but is entirely destitute of medicinal properties.

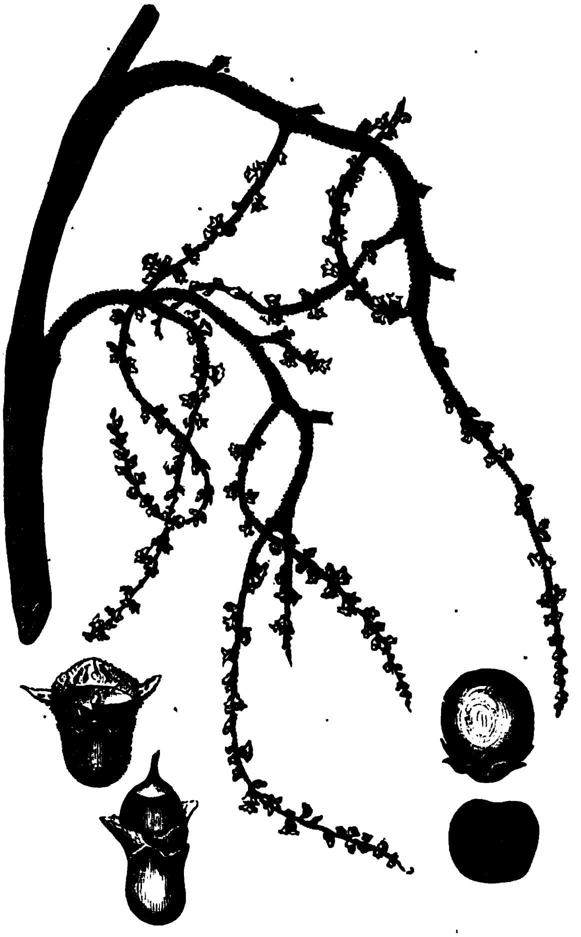

Fig. 2.—Copernicia Cerifera, Mart.

Ethyl Bromide—a New Anæsthetic.

Ethyl bromide, bromide of ethyl, or bromethane,† C_2H_5Br, is a colorless liquid, of pleasant ethereal odor, biting taste, has a specific gravity of 1.470, boils at 41° C. (106° F.), and takes fire only with difficulty. It is formed during the action of bromine and phosphorus upon alcohol, or by causing olefiant gas to come into contact with hydrobromic acid gas, or by heating alcohol with amyl bromide. It is best prepared by pouring upon 1 part of white or red phosphorus, in a retort, 40 parts of alcohol of 0.840, adding 7–8 parts of bromine in rapid drops, distilling, washing the distillate with water, drying it with calcium chloride, and rectifying it. It is but little soluble in water, and is miscible with ether and alcohol. When heated with water, it splits into ether, ethene (olefiant gas), oil of wine, and hydrobromic acid; with potash it yields ether and potassium bromide, and with aqueous ammonia it forms hydrobromate of ethylamine.

When inhaled, it produces, according to Rabuteau,* a complete anæsthesia, as rapidly or more so even than chloroform. This has been shown by experiments upon animals. Dogs are completely anæsthetized by inhaling it from a sponge for two to five minutes, and they rally from it quicker than after the administration of chloroform. On injecting subcutaneously a solution of muriate of narceia or morphia, before anæsthetizing with ethyl bromide, similar appearances are noticed as when these substances are administered previous to chloroform, namely, consciousness is partly retained, while insensibility to pain is complete.†

Compared with chloroform, ethyl bromide cannot be called caustic, nor even irritating. It may be applied without danger, subcutaneously, upon mucous membranes, and even in the meatus of the ear. In this case it has an advantage over chloroform and ether, as the former is too irritating, and the latter is too volatile. In doses of 1 to 2 grammes, administered in man, it does not interfere with the appetite, does not produce anæsthesia, but alleviates pain. In whatever way it may be ingested into the organism, it is entirely, or almost entirely, eliminated by the lungs; only traces of it can be detected in the urine.

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* *Bull. Soc. Chim.* (2), ix., 41.

† Sometimes also called hydrobromic ether.

* *Zeitsch. d. Oester. Apoth. Ver.*, 1877, 239, from *Compt. R.*, 83, 1294.

† On this condition, called Nussbaum's Narcosis, see *March number*, page 81.

On a very delicate Indicator for Acids and Alkalies.

A NUMBER of substitutes for litmus have been proposed during the last few years, among which rosolic acid and fluoresceïn were considered to be the most delicate and reliable. But even these substances have some drawbacks, either not being themselves entirely colorless before supersaturation, or else giving similar reactions with certain other substances, independently of their being alkaline or acid. A much better substitute has been cyanin (anthocyan, flower-blue), which, however, is only to be obtained with great difficulty.

Dr. E. Luck now draws attention to a new substance, *phenol-phtaleïn*, which was discovered by Baeyer a few years ago,* and which may easily be prepared by heating phenol with phtalic anhydride and concentrated sulphuric acid to 120° C. (248° F.). [The compound is formed according to the following reaction, the sulphuric acid effecting merely the separation of a molecule of water:

$$C_8H_4O_3 \quad +2C_6H_6O=C_{20}H_{14}O_4 \quad +H_2O$$

phtalic anhydride + phenol = phenol-phtaleïn + water.]

This body is *entirely colorless* in *neutral or acid* solutions, but exhibits an *intense purple* color in the presence of the least excess of *alkali*. The change of color is instantaneous, and its depth intense, so that even mere traces of the indicator and of an alkali become recognizable. One part of phenol-phtaleïn in 100,000 parts of water is still turned perceptibly red by the least trace of an alkali, and decolorized by a trace of acid. It is recommended to dissolve 1 part of phenol-phtaleïn in 30 parts of alcohol, and to add to about 80–100 cc. of the liquid to be titrated, one, or at most two drops of the solution. If the liquid is acid, a slight opalescence first makes its appearance, which disappears on stirring. The smallest drop of an alkaline or acid solution will produce in the liquid the change from colorlessness to purple, or vice versa.—*Zeitsch. f. anal. Chem.* 1877, 332.

Phtalic Acid and Phenol-Phtaleïn.

As it is quite probable that some of our readers would like to prepare the new indicator spoken of in the previous article, we will give a short account of the preparation of phtalic acid and phenol-phtaleïn.†

Phtalic Acid.—A mixture of 1 part of naphtalin and 2 parts of potassium chlorate is slowly added, in small portions, to five times its weight of ordinary hydrochloric acid. The mixture, containing chlorinated addition- and substitution-products of naphtalin, is thoroughly washed with warm water (best by decantation); then dried with a very gentle heat, to prevent the mass from melting together, and the accompanying volatile chlorides extracted by several hours' digestion with cold petroleum-benzin. The residue is washed with the same menstruum, and again dried below 80° C. (176° F.). It now consists mainly of naphtalin tetrachloride. This is heated on the sand-bath with five to six times its weight of nitric acid, of a specific gravity not exceeding 1.350, until the liquid has become homogeneous, which happens after a few hours. The excess of nitric acid having been evaporated off, on cooling, phtalic acid crystallizes out. It is purified by repeated crystallization from boiling water. In this condition it is hydrated ($C_8H_4O_3,H_2O$), but by melting it, and heating at 180° C., as long as water is given off, it is converted into *phtalic anhydride* $C_8H_4O_3$), some of which, however, is lost by volatilization. It should be purified by sublimation. 100 parts of naphtalin yield about 30 parts of phtalic anhydride.—(C. HAEUSSERMANN in *Pol. Journ.*)

Phenol-Phtaleïn.—10 parts phenol, 5 parts phtalic anhydride, and 4 parts of concentrated sulphuric acid are heated for several hours to 120°–130° C. A red mass results, which, after boiling in water, yields a resin convertible into a yellowish white powder by exhausting it with boiling benzole. Dissolved in solution of potassa, and precipitated by hydrochloric acid, it is obtained as a flocculent resinous precipitate of nearly white color, settling together in a curdy mass.

Sugar in Pharmacy.

AT the recent meeting of the British Pharmaceutical Conference, Mr. Charles Symes read a paper on the above subject, of which the following is an abstract taken from the *Chemist and Druggist*:

"The author remarked on the scantiness of the pharmaceutical literature of sugar, and thought that as a pharmacopœial article it should not be considered so insignificant as to be unworthy of attention. Sugar had several functions in pharmacy. It was an adjunct, accessory, or excipient; it increased the activity of medicines by mechanical division, as in the case of calomel; it entered into chemical combination, as with liquor calcis sacch. and the less-known iron compounds (see Dr. Gladstone's paper, *Jour. Chem. Soc.*, vii., 195). It acted as a preservative, as in ferri carb. sacch., and formed one of the best media for the administration of nauseous medicines. Its preservative powers were retained only so long as it was chemically unchanged, the first appearance of fermentation destroying them.

"In the choice of sugar for pharmaceutical purposes, purity was the first requisite, and was easily obtained. The makes of Say, Tate & Son, and the Eastern Sugar Refinery, Boston (England), were of about equal purity. They yielded ash equalling from 6 to 12 per 10,000 of calcium and potassium salts, and only a mere trace of glucose. The prejudice against the use of beet-root sugar was due to the greater impurity of the crude product and the occasional presence in the refined article of traces of volatile oil and potassic nitrate. The latter impurity gave rise to a trace of nitric acid, which in many cases acted as a decolorizer.

"When thoroughly refined, beet-root sugar was fully equal to cane sugar; in fact, Say's lump, a standard of purity in the sugar trade, was for many months in the year prepared from beet-root sugar alone.

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* *Ber. d. Deutsch. Chem. Ges.*, 4, 658.

† After *Pharm. Zeit. f. Russl.*, 1877, 423.

"Some druggists used large crystals, under the impression that this was the purest form, but the author had not found this to be the case, and the large crystals were less soluble than the small ones.

"Solubility was an important quality. When sugar is heated continuously in the presence of water, the first change of fermentation, that from sucrose to glucose, takes place, and though active fermentation does not necessarily follow, it becomes more easy. With a very soluble sugar, simple agitation in the cold would produce a syrup of the requisite density, but in any case it was best to add the sugar to the water already boiling, and so to avoid the long exposure to heat required in gradually warming them together. Syrups containing acids were much more readily inverted, but the power of acids in inversion was various. The following table of the invertive power of acids at different atmospheric temperatures was published in 1874 by Arno Behr. The action of hydrochloric acid was taken as the standard, 100.00:

Inverting Power of Acids on Sucrose. (Arno Behr.)

Acids.	211 hrs. at 13°–18° C.	115 hrs. at 19°–27° C.	78 hrs. at 25°–27° C.
Acetic	1.2	1.3	1.6
Butyric	—	1.9	2.5
Isobutyric	—	2.2	2.5
Succinic	—	3.5	4.0
Malic	—	8.1	8.8
Citric	8.2	9.2	10.2
Formic	—	9.2	9.6
Lactic	10.2	10.4	9.9
Tartaric	11.4	13.4	13.8
Phosphoric	24.2	25.8	26.9
Oxalic	49.6	53.1	54.5
Sulphuric	83.9	83.1	84.2
Hydrochloric	100.0	100.0	100.0
Nitric	100.1	100.4	100.1

Thus, acetic acid had the least and nitric acid the greatest inverting power. Phosphoric acid stood high in the scale. As a rule, the inverting power seemed to increase with the temperature.

Dispensing bottles for syrups should be carefully cleansed each time before refilling. The continental plan of filling the syrups into half-pint bottles, keeping in a dark, cool place, and taking them one at a time into the dispensary, was a very good one. The bottles were not refilled, but replaced. When a new batch of syrup was added to a small quantity of old, there was a great chance of the whole being reduced to the standard of the old.

Syrups which were rarely used, as of roses and saffron, could be conveniently extemporized by making a concentrated solution of the drug, filtering it upon powdered lump-sugar in an evaporating basin, evaporating to dryness, with constant stirring, and powdering the residue. The powder would keep for years, and a clear syrup could be readily prepared by shaking it with the required quantity of water.

The usefulness of sugar in preserving solutions of ferrous salts from oxidation was probably due to the fact that saccharated water contains less air than distilled.

In the discussion that followed the paper, Dr. Oxland, of Plymouth, an old sugar-refiner, said that the continental makers often used ultramarine to disguise the imperfect refining of their sugars. English makers would consider such a course *infra dig.* The speaker claimed to be the first refiner who had used beet exclusively for the production of loaf sugar. This he had done by the employment of superphosphate of alumina instead of blood for defecating the juice. Formerly only about 50 per cent. of beet could be employed. He thought beet yielded sugar in every respect as good as cane, though he could always distinguish it by the crystals, the beet being about double the length of the cane, which were more square.

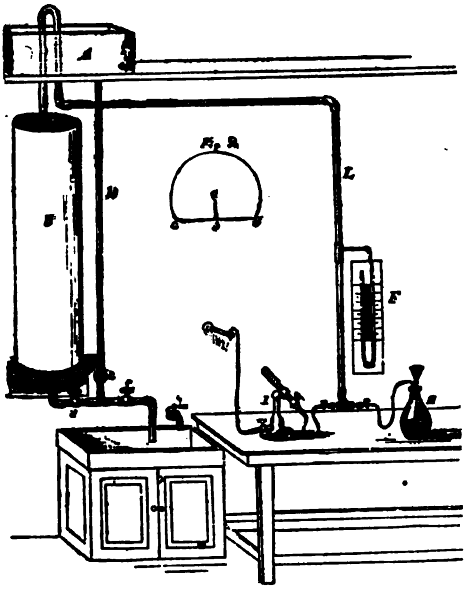
Hypodermic Use of Apomorphia for the Prevention of Epilepsy.

E. VALLENDER reports in the *Berliner klin. Wochenschrift* the results which have followed in several cases, when hypodermic injections of apomorphia have been employed for the arrest of epileptic convulsions. One-sixteenth and less of a grain was the dose employed, and in cases where sufficient time elapsed between a recognized aura and the advent of the convulsion, the attacks were both diminished in frequency and rendered less severe. When the use of the apomorphia was suspended, the convulsions, in some cases, showed a tendency to return.

Apparatus for producing a Blast or Vacuum in Laboratories.

THE apparatus shown in the adjoining illustration was contrived by Mr. G. Henry Hanks, of New York, and is in successful use in his laboratory. It will produce either a blast or a vacuum at will, and may be thus described: The tank *A* may occupy any convenient position at an elevation of about ten feet above the bottom of the galvanized-iron cylinder *B*, into which the water can freely flow through the half-inch iron pipe *M*. A ball-cock, not shown, regulates the supply of water to the tank. The cylinder is ten inches in diameter and between five and six feet high. When a blast of air is required, the globe-valves *C* and *D* are opened and *E* is closed. As the water enters the cylinder from below and gradually rises, the air is compressed, and the level of mercury in the manometer *F* will indicate the pressure. When the mercury has risen one inch the compressed air may be allowed to escape by turning the pillow-cock at *I*, which in the illustration is intended for a gas-burner. The tube *L* must be carried above the level of the tank, to prevent the passage of water into the air-tubes.

To produce a partial vacuum the cylinder may be partly filled with water, the valve *C* being closed. The valve *E* is to be closed while the cylinder is filling. The compressed air is then allowed to escape. The valve *E* is opened and the water allowed to run into the sink. This causes a partial vacuum in the cylinder, and the tendency of air to pass in through the tube *L* to fill this vacancy can be utilized in many ways. In localities remote from places where the sheet-iron cylinder could be had, it and the tank as well may be replaced by a couple of tight barrels.



Apparatus for Producing Atmospheric Pressure.

A New Medicinal Solution of Phosphorus.

BY W. W. URWICK.*

In consequence of the able paper by Mr. Williams, on the administration of phosphorus, read before the British Pharmaceutical Conference in 1874, giving a formula for the solution of phosphorus in glycerine and alcohol, and pointing out that a portion of the phosphorus became oxidized during the process, the author was led to make one or two experiments with the desire to produce a formula not liable to change, for the administration of phosphorus in known doses, and capable of being administered without admixture, if required. With this idea he prepared phosphorus pills, and coated them with a solution of albumen; but after a time the pills ceased to be luminous on testing them, showing that the phosphorus had disappeared, and was no longer present in the free state. Mr. Hampson suggested to him that the albumen had become porous by drying. Though at first foiled, feeling he was on the right track, Mr. Urwick thought it possible to make a solution that should be stable and should contain known doses.

He adopted the suggestions made by Mr. Williams at the British Pharmaceutical Conference, with the following modifications: he dissolved 2 grs. of phosphorus in absolute alcohol and glycerine, at a temperature of about 170° Fahr., with the addition of a little cane sugar and sugar of milk, which addition prevented any portion of the phosphorus passing into an acid state during the time of solution. When the solution was cold he added the albumen of one egg, first mixed with a little glycerine and alcohol, and then sufficient glycerine to measure 10 ounces, the strength of the finished product being $\frac{1}{40}$ of a grain to the drachm, which is quite strong enough to admit of its being preserved a long time without change, and taken, if required, without dilution.

Some of this solution has been kept for more than two years without the phosphorus passing into the amorphous state, or the solution becoming acid or losing its luminous properties when agitated with water in the dark. In no case as yet has any change occurred, except where the solution has been, for the purpose of experiment, exposed to the strong rays of the sun, day by day, for a period of nearly three months, when a slight trace of amorphous phosphorus became visible. So thoroughly does the albumen protect the phosphorus that when the solution has been mixed with water, and kept for a week, it still shows phosphorescence on agitation.

Wishing to make the solution somewhat more agreeable to the palate, the author added a few drops of oil of neroli to the albuminated solution of phosphorus, when, to his surprise, in an instant the solution lost its smell and flavor of phosphorus, and also its power of showing phosphorescence when mixed with water and agitated; indeed, the phosphorus seemed at once blotted out of existence, but blue litmus remained unchanged, pointing out that it had not been oxidized. The question, "How does the oil of neroli prevent oxidation?" was submitted to the conference. On this point, at present, the author could give no satisfactory answer; but he found, on applying a strong heat to the solution with neroli, the peculiar ring-like fumes of phosphorous pentoxide were formed. This may not be a crucial test, but points to the fact of the phosphorus being held in the solution with neroli in a free state.

Yolk of egg deprives the solution of phosphorus of its luminosity, but still appears to hold the phosphorus in a free state. Indeed, the idea has occurred to the author that the phosphorus natural to the egg occurs in the free state. Possibly the oily matter in yolk of egg is the agent which absorbs the phosphorus from the author's solution. On adding excess of the solution to the yolk, its power of absorption is overcome, and phosphorescence reappears.

Tincture of orange at once destroys the phosphorescence, smell, and flavor, as does also tincture of gentian. With tincture of calumba, tincture of quassia, and tincture of nux vomica, the phosphorescence, smell, and flavor remain unaltered.

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* From the report of the meeting of the Br. Pharm. Conf., in the *Chemist and Druggist* of Aug. 15, 1877.

Essence of lemon deprived the solution of its phosphorescence, but the smell and flavor remained in a modified form.

Oil of cloves also deprived the solution of its phosphorescence, smell, and flavor; but on agitation with water, and then standing, flashes of phosphorescence appeared at intervals, similar to electric sparks, and on keeping for two days the phosphorescence reappeared to a slight extent, but soon passed away.

With orange-flower water the solution remains luminous nearly as long as with common water, retaining the smell and flavor of phosphorus. Milk destroys the phosphorescence, but the flavor and smell remain in a slightly modified state. Within this last week or two these points have presented themselves to his observation, but up to the present time the author has not been able to trace the chemical change, if any, that takes place in the phosphorus, or what combination it forms with essential oils or milk.

The formula referred to is as follows:

Alcohol	1½ oz.
Cane sugar	½ oz.
Sugar of milk	¼ oz.
Phosphorus	2 grs.
Glycerine to	10 oz.
Albumen of one egg.	
M.	

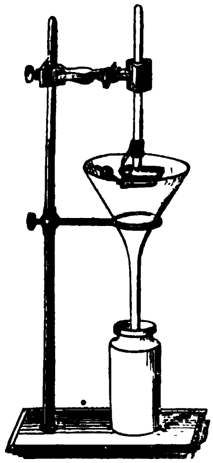
After the reading of Mr. Urwick's paper, Professor Attfield showed some of the emulsion mixed with water. When the phosphoric fumes filled the bottle, the addition of a single drop of oil of neroli at once stopped the fumes and removed the phosphorous odor from the mixture.

Preparation of Pure Nitrogen Gas.

MOST text-books of chemistry give a method of preparing nitrogen, which is based upon the decomposition of ammonium nitrite. But this method is practically useless, because it is necessary to employ an absolutely pure salt, which is very difficult to prepare, and even then traces of nitric oxide accompany the product. On mixing a solution of commercial sodium nitrite ($NaNO_2$) with a solution of ammonium sulphate or nitrate, the neutral or alkaline mixture undergoes hardly any change. Addition of acetic acid produces an effervescence of nitrogen, mixed, however, with considerable quantities of nitric oxide. This may be entirely prevented by adding to the mixture of the two salts a strong solution of potassium dichromate, until the free alkali is neutralized and the dichromate is present in considerable excess. It is then only necessary to warm the mixture, when pure nitrogen is evolved as easily as carbonic acid gas from carbonates. If, however, the salts employed contain chlorine, the nitrogen must be washed by passing through a solution of soda or potassa.—W. GIBBS in *Ber. d. Deutsch. Chem. Ges.*, 1877, 1387.

Siphon Regulator for Continuous Filtration.

A NEW contrivance for continuous filtration, rather more complicated than the simple arrangement shown on page 42 of our last February number, has been constructed by Mr. Yvon. The vessel containing the liquid to be filtered is placed at a proper elevation over the filter, a rubber tube is made to dip with one end to the bottom of the liquid, and the other end is slipped over a short glass tube fastened upright in a retort-stand, and terminating in a point (see Fig.). A metallic band attached to the tube carries a piece of cork, which closes the orifice of the glass tube and turns downward on a hinge, whenever the liquid in the filter ceases to press it upward against the glass tube. This valve, however, is regulated and made more delicate by a metallic globe, movable on a lateral screw-rod, and attached to the back of the valve. By means of it the cork-valve can be made to press upward more or less strongly, depending upon the height of the liquid in the upper reservoir. When the filter is started, it is only necessary to place under it a sufficiently large vessel to hold all the filtrate when it may be left to itself.—*Rép. de Pharm.*, 1877, 426.



Siphon Regulator.

Metallotherapy.

WE have already mentioned the experiments made in the Saltpêtrière in the service of M. Charcot (NEW REM., p. 143), upon the effects of applying metallic plates to anæsthetic and analgetic surfaces. An editorial in the *British Med. Jour.* of May 19th gives further details of the investigation by a committee from the Société de Biologie, some of which we quote.

The committee have found, in accordance with M. Bury's statements, that there exists in different patients a special *aptitude métallique;* that is to say, that sensibility returns under the influence of a certain metal. This is determined by binding on the arm or leg, or anæsthetic part, plates of gold, copper, zinc, etc. After from ten to fifteen minutes, it is found that, if the metal employed be the proper one, sensation begins to return at the point of application. The patient feels a sensation of heat or numbness; the part becomes red, and pricking with a needle causes great pain at the level of the bracelet and for some distance above and below it. At a given distance, well-marked dysæsthesia, or perverted sensibility, becomes established.

When the metal is applied to the forearm, the sensibility gradually extends to the hand, and the temperature rises above that of the other side, as determined by a thermometer fixed in each hand. At the same time the muscular power rises very considerably above that which existed before the commencement of the experiment. Curiously, also, needle-punctures now bleed freely; whereas, in the anæsthetic condition scarcely a drop of blood showed itself, even when the needle was thrust through the limb. What is true of common sensibility, is also true of the special senses. By the application of the metal at or near the organs of special sense, a more or less complete restoration is effected. The effect, however is very transitory, and next day the anæsthesia is found to have returned. The patients generally complain of great fatigue, headache, and a tendency to sleep after each experiment. But perhaps the most remarkable phenomenon of all is that the return of sensibility, under the influence of the metallic plates, is effected at the expense of the sensibility of the sound side. This takes place in a symmetrical manner. Thus, if the sensibility be restored to the arm by the application of the metal, it is found that the corresponding part of the sound arm has lost its normal sensibility. The same is true of the organs of special sense, and of temperature and muscular power. It would seem, therefore, that there is no real gain, but that a *plus* on one side is accompanied by a *minus* on the other.

Experiments on two cases of hemi-anæsthesia of cerebral origin led to improvement which was permanent (the other cases were of a hysterical nature). The committee offer no explanation of these facts.

On Copaiba-testing.

M. LOUIS SIEBOLD, at the last meeting of the British Pharmaceutical Conference, said that most of the tests for copaiba described were utterly fallacious, and were applicable to certain kinds of balsams only. The exceedingly variable proportions of volatile oil and resin in different samples of copaiba caused their density and appearance to be also variable. Benzol could not be used as an indicator of purity, as the various adulterants of copaiba are themselves soluble in it; and one of them, for the detection of which it was principally intended, viz., gurgun balsam, or wood oil, was the more soluble in it the purer the benzol. Benzoline, however, would answer the purpose, as a mixture of one volume of balsam with four volumes of this liquid would, after an hour's setting, deposit a bulky sediment if gurgun oil were present, whereas a pure balsam thus treated with either forms no deposit at all, or an exceedingly slight one. Flückiger's test ("Pharmacographia," p. 206) was also a very good one. Fluorescence could under no circumstances be regarded as an indication of an adulteration, as many samples of genuine balsam possessed that property. The magnesia test, which has been recommended for the detection of fatty oils and also of gurgun balsam, was entirely fallacious, as the power of dissolving a given weight of magnesium carbonate must depend on the amount of acid resin present, which was exceedingly variable in different samples. For the same reason the ammonia test, too, was useless. The property of forming a perfectly clear mixture with three volumes of absolute alcohol was not possessed by many genuine samples of copaiba, and especially not by Para balsam; but an experienced manipulator might, nevertheless, be able to detect an admixture with fixed oil, by means of alcohol, from the nature of the deposit found after standing. The simplest and best plan for detecting such an admixture consisted in the evaporation of a small quantity of the balsam on a watch-glass, for in the presence of fatty oil the remaining resin would not be brittle. If it were pulverizable, the balsam was certainly quite free from fatty oils.

Muter's test (see NEW REMEDIES, January, p. 11), as a qualitative test, was much inferior to the one just named, and for quantitative purposes was far from being accurate. Mr. Sebold relied, for detection of oil of turpentine as an adulteration, on the great difference between the boiling-points of this oil and the oil distilled off from copaiba. The first few drops of oil passing over during distillation with water or steam would consist mainly of the adulterant, which could at once be recognized by its odor upon heating a drop on a watch-glass.—*Chemist and Druggist.*

New Apparatus for the Estimation of Urea.

THE estimation of urea appears to be a fruitful field for the invention of special apparatus and special methods of assay; no less than 16 different methods having been described in the journals within the last 10 or 12 months. Dr. A. Dupré has constructed a new apparatus for estimating urea by means of sodium hypobromite,* which somewhat resembles Apjohn's apparatus, described in the *Chemical News* of Jan. 22, 1875. A burette, *a* in Fig. 1, having a lateral supply tube, put upside down into a cylinder with water, constitutes the part for measuring the gas evolved. It can be raised, lowered, and fixed at any height by means of the clamp-rod *b b*. The reaction between the urine and the hypobromite is effected in a small flask or bottle, fitted up as for the estimation of carbonic anhydride (carbonic acid gas) in carbonates. The two forms generally used are shown in *c*, Fig. 1, and in Fig. 2. To work the apparatus, the pinchcock *d* is taken off, and the burette is let down to the zero point of the scale. Twenty-five c.c. of the hypobromite solution are next put into the bottle, and the pipette, *e*, is filled with urine in the usual manner, the india-rubber tube at *f* being detached for this purpose. Before putting the stopper back into the flask, it is advisable to suck up the urine slightly, so that the extreme point of the pipette becomes empty, and there is no danger of a drop of urine falling into the hypobromite prematurely. This is best done by compressing the india-rubber tube attached to the pipette between the finger and thumb of one hand, above the pinchcock of course, and drawing the tube so compressed through the fingers for an inch or so. If now, before relaxing the pressure on the tube, the pinchcock is opened for a moment, the urine will be sucked up to the desired extent. If, previous to use, the point has been slightly greased inside, the urine will show no tendency to run back, and the pipette can be moved about without fear. The stopper with the pipette is now to be firmly inserted into the bottle, the india-rubber tube being slipped back over *f*, and the bottle put into a vessel with cold water. The pinchcock *d* is to be fixed on, and the burette raised several inches, when, if all is tight, the column of water in the burette will remain stationary. The urine can now be allowed to run into the hypobromite as rapidly as may be convenient, and a thorough mixing effected by a gentle rotary motion of the bottle. According to Hüfner, the reaction is the more complete, the more rapidly the two fluids are mixed. In from one to two minutes the reaction will be almost over. The bottle should now be shaken briskly several times. This causes an appreciable amount of effervescence, and is the means of bringing the reaction sharply to the same point each time. In five minutes from the beginning of the experiment the bottle is to be put into cold water, the burette let down into the cylinder for a few moments, then raised until the water inside and out is on a level, and the amount of gas collected can then be read off. If the arrangement, Fig. 2, is preferred, the 5 c.c. urine are to be put into the little test-tube fixed to the glass rod, the stopper is then replaced, and the apparatus arranged and tested as before. By now inclining the bottle in one direction, the little tube can be gradually emptied; by inclining it in another direction, it can be filled with the hypobromite. It is thus easy, alternately to empty or fill the little tube, and thus effectually to wash out the urine. The rest is done as before.

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* Sodium hypobromite solution is made by dissolving 100 grms. of caustic soda in 250 c.c. of water, and adding 25 c.c. of bromine to the solution so produced. $2NaHO+Br_2=NaBr+H_2O+NaBrO$.

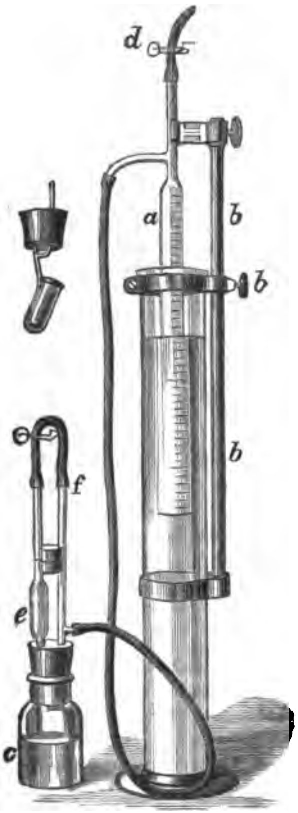

Fig. 1.—Dupré's Apparatus.

When working with 5 c.c. of urine according to this method, and at ordinary temperature, 36.7 cubic centimetres of the burette indicate 0.1 gramme of urea.

Another form of apparatus for accomplishing the same purpose has been constructed by Dr. Maxwell Simpson and Mr. C. O'Keefe, from materials usually found in every laboratory. These are: an ordinary wide-mouthed bottle, *A*, of 1½ oz. capacity; an india-rubber stopper with three holes; a bent pipette, *B*, with its extremity drawn out to a point; a narrow tube, *C*, about 9 inches in length, surmounted by a globe, and furnished with a glass cock, with its extremity also drawn to a fine point and upwards; a narrow gas-delivery tube, *D*, which can be opened and closed at pleasure by means of the pinchcock, *E*; a finger-bowl; and a graduated tube, *F* (Russell and West's scale).

To use the apparatus, the bottle is to be filled with a solution of sodium hypobromite and closed with the india-rubber stopper, through the three holes of which the tubes *B*, *C*, and *D* have already been passed. *C* must also contain water reaching a few lines higher than the glass cock. In closing the bottle care must be taken not to allow any air to be imprisoned between the stopper and the liquid, and that the extremities of *B* and *C* reach to the bottom of the bottle. The end of the delivery tube *D* must then be plunged a few lines below the surface of the water in the finger-glass, a little hypobromite is to be introduced into the pipette *B* and the pinchcock *E* opened, by which means all the air is forced out of the delivery tube. The graduated tube *F*, previously filled with water, is then brought over the extremity of the delivery tube, and the analysis is commenced by introducing 5 c.c. of the urine into the globe *C*, and allowing about one-third of it to pass through the glass cock into the hypobromite solution. According as the gas rises to the top of the bottle, it forces some of the hypobromite into the pipette. When all effervescence has ceased the pinchcock is to be opened, and the gas allowed to pass into the graduated tube. The pinchcock is again closed and one-third more of the urine allowed to flow into the hypobromite, and the gas forced into the graduated tube as before. When the urine has nearly reached the upper surface of the glass cock, a little water is to be added to it, the stopcock opened, and the whole of the urine washed into the bottle, care being taken not to allow the water to pass below the upper surface of the stopcock. Finally, a little hypobromite is to be introduced into the pipette; if necessary, the pinchcock is once more opened, and all the gas swept into the graduated tube. The graduated tube is then transferred to a deep glass vessel containing water, the surface of the water inside and outside the tube brought to the same level, and the volume of gas read off.

The authors state that they have found 37.0 to 37.3 cubic centimetres (uncorrected) of the graduated tube to correspond to 0.1 gramme of urea, differing, therefore, by 0.7 to 0.4 c.c. from Dr. Dupré's results. In Russell and West's burette they found 37.1 c.c. of moist nitrogen at ordinary temperature, to be equal to 0.1 grm. of urea.—*Journ. Chem. Soc.*, 1877, pp. 534, 538.

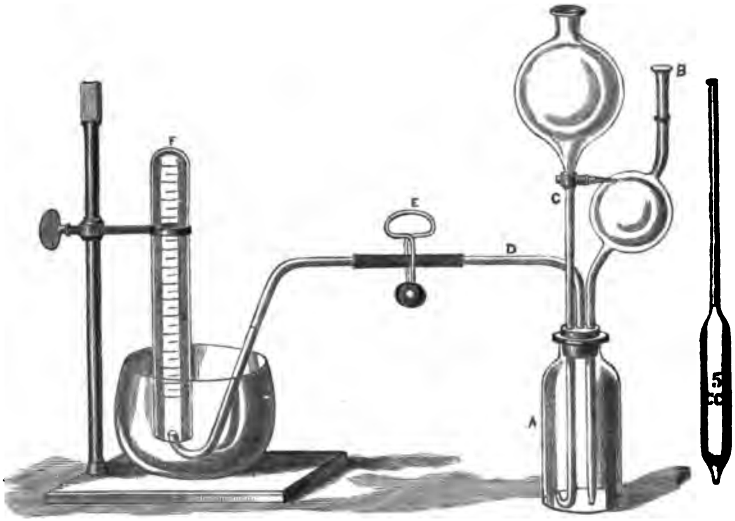

FIG. 2.—Maxwell and O'Keefe's Apparatus for the estimation of urea.

Hydrobromic Acid.

AL. NAUMANN has studied the behavior of bromine and sulphur bromide to sulphuretted hydrogen, and has found that the action of sulphuretted hydrogen on bromine dissolved in water is unlimited. This is one of the usually recommended methods for preparing hydrobromic as well as hydriodic acids; but in the latter case—that is, when sulphuretted hydrogen acts upon iodine—the action terminates as soon as the solution is saturated with the acid. In the case of hydrobromic acid, however, as soon as the solution is saturated, the acid escapes in the gaseous state. The aqueous solution formed at ordinary temperatures contained in a cubic centimetre:

1. After the first violent reaction	1.06 grms. of HBr.
2. After the addition of more bromine, and passage of more gas, until the liquid became colorless..........	1.11 " "
3. After a further addition of bromine, and when again colorless........	1.13 " "

In the last case, 1 cubic centimetre at 20° C. weighed 1.762 grms., and contained:

Water........................	0.58 grms.	
Hydrobromic acid...............	1.13 "	=64%
Sulphuric acid..................	0.052 "	

The sulphur bromide, which always forms in this process, removed from No. 3, contained, when dry, 60 per cent. of bromine; after washing with water, and standing for several days over lime and sulphuric acid, 56 per cent. of bromine.

A continual stream of hydrobromic acid gas, and a concentrated solution of the same, may therefore easily be prepared by passing sulphuretted hydrogen into a solution of bromine in water, till the latter is saturated with the hydrobromic acid gas; on further addition of sulphuretted hydrogen, the former gas escapes and may be absorbed by water in a receiver. The sulphur bromide may be decomposed by hot water and the solution used again in the next operation to dissolve the bromine. The only drawback in the preparation of hydrobromic acid in this way is the formation of traces of sulphuric acid from the sulphur bromide.—*Ber. d. Deutsch. Chem. Ges.*, 9, 1574.

Hydrobromic Acid for Tinnitus Aurium.

DR. EDWARD WOAKES, aware of the effect of this acid in relieving the symptoms produced by quinia, has tried it in a number of cases of tinnitus aurium from other causes, and has had encouraging results. His paper on the subject is to be found in the *British Med. Journal* of June 23d. Two points, he says, demand attention to secure the success of the remedy, viz.: 1. The auditory apparatus must be clear of any well-marked morbid process; 2. The tinnitus should present the characters of congested blood-supply.

Pitury, an Australian Stimulant.

BARON MUELLER gives in an Australian journal an account of his recent examination of the leaves of the "pitury," said to be of great power as a stimulant, and to be found growing in desert scrubs from the Darling River and Barcooto to West Australia. It is his opinion that it is derived from *Duboisii Hopwoodii*, described by him in 1861, the leaves of which are chewed by natives of Central Australia to invigorate themselves during long foot-journeys. The blacks use it to excite their courage in warfare; a large dose infuriates them. The *Sidney Herald* is informed also that some dry leaves and stems, said to come from far beyond the Barcoo country, and called "pitcherine," are used by the aborigines as we use tobacco, for both chewing and smoking; and it is stated also that a small quantity causes agreeable exhilaration, prolonged use resulting in intense excitement. It is observed that the blacks, after chewing the leaves, plaster the quid so formed behind the ears, believing that this increases its effect.—*British Med. Journal.*

Preparations of Crystallized Phosphorous Acid.

To prepare crystallized phosphorous acid, Grossheintz recommends the evaporation of phosphorus trichloride in a current of dry air at 60° C. (140° F.), and to conduct the gases into water cooled with ice. As soon as the latter has attained a certain degree of saturation, crystals of phosphorous acid begin to separate, which soon convert the liquid to a thick magma. The fluid portion is removed by means of a water air-pump (filter-pump), the crystals are washed with a small quantity of ice-cold water and dried in vacuo.—*Pharm. Zeit.*, 1877, No. 57, from *Compt. Rend.*

An Improved Gas-Burner.

For the purpose of better regulating the distance of the flame from the object to be heated, Mr. Robert Müncke has added an improvement to the well-known Bunsen's gas-burner, which consists of an elongation-tube movable up and down the burner with sufficient friction to remain at any given height. An ordinary burner of 160 mm. (6¼ inch.) height may thus be lengthened to 250 mm. (9⅞ inches). When requiring the use of the triangle for supporting chimneys, etc., in combustions, or incinerations, the sliding tube and triangle are in one piece. This contrivance does away with the inconvenient wooden supports or blocks, which it is often impossible to exactly adjust to the proper height.—*Ber. d. Deutsch. Chem. Ges.*, 10, 538.

Albuminate of Iron.

Dr. Choisnard (*Gaz. des Hôp.*) again calls the attention of physicians to a remedy strongly recommended by Dr. Démarquay in chlorosis and anæmia, namely, albuminate of iron. According to his observations, this preparation is more readily absorbed than any other compound of iron. It was first proposed by Lassaigne under the name of albuminate of iron and potassium, and is prepared as follows: a solution of 100 parts of white of egg is precipitated by 36 parts of a solution of ferric tersulphate, spec. gr. 1036; to the mixture is added a solution of 2 parts of caustic potassa dissolved in 50 parts of water, whereby the precipitate previously formed is redissolved and an orange-yellow solution is obtained, which is made into a syrup by the addition of 1½ times its weight of sugar. The finished syrup contains 1% of anhydrous ferric oxide.

RECENT PAPERS.

Chemist and Druggist. Aug. 16.

Report of the Proceedings of the British Pharmaceutical Conference. The fourteenth annual meeting, held at Plymouth, August 14 and 15, 1877.

Dr. Wright, J. Williams, and F. B. Groves: "Report on the Extraction and Investigation of Aconitines." [Aconite from *A. Napellus* had been found to have the composition $C_{33}H_{43}NO_{12}$. By the action of hot water, alkalies, and some acids, this substance, first assimilating one molecule of water, can be split up into benzoic acid and another substance which has been named aconine ($C_{26}H_{39}NO_{11}$.) They therefore regarded aconitia as a benzoyl-aconine. Aconine itself was an inert substance, with a slightly bitter taste, but giving no tingling effect. Pseud-aconitia (the alkaloid from *A. ferox*) can be split up in a similar manner, but with materially different results, the products being what was called pseud-aconine and the substance called diamethylprotocatechuic acid.

It had also been found that *A. Napellus* and *A. ferox* yield both aconitia and pseud-aconitia, though in respectively varying proportions, which accounts for the fact also discovered by the committee that commercial aconitia always contained pseud-aconitia also.*]

Dr. Paul reported the results arrived at by Mr. Kingzett and himself after examination of some Japanese aconite. By the use of benzoline they had extracted from 8½ lbs. of the root a larger proportion of crystallizable substance than is usually assigned to aconite, viz., 13 to 14 grains to the pound.

Dr. Paul criticised the various analyses of aconite which had been published, and which he showed had considerable variations. His general conclusion was, that the so-called alkaloids were compounds of aconitic acid with various bases.

In the discussion following, Dr. Redwood spoke of the importance of the knowledge that the process of manufacture could split up a body of such deadly character into inert substances.

Mr. Holmes thought Japanese aconite was not *A. Napellus.*

Dr. Greenish had examined this variety microscopically, and had found it, like aconite from other sources, to be mixed. Variations in samples he considered to be owing, possibly, to different ages of the roots. He believed from its botanical character that Japanese aconite was not derived from *A. Napellus.*

Mr. Umney thought that Nepaul aconite was most powerful, but millmen complained of the irritation produced by the Japanese aconite.

Mr. Gerrard had also found that Japanese aconite yielded a much larger proportion of alkaloid. He also remarked its irritating effect, and said that, in using it, it was necessary to protect the face and hands.

Mr. Kingzett criticised the chemical formulæ given by Dr. Wright, and the latter, in reply, was of the opinion that the product mentioned in the report of Dr. Paul and Mr. Kingzett was the compound of aconitia and pseud-aconitia.

Dr. Wright also added that, in his opinion, the preparations of the root now used were not reliable, for the double reason that they were liable to depreciation, and that the roots themselves varied.

J. C. Thresh: "The Active Principle of Cayenne Pepper." [The author had examined 8¼ lbs. of alcoholic extract of cayenne, the produce from 30 lbs. of fruit (ordinary chillies). By treatment with benzine, 2¼ lbs. of fat were obtained. On treating this with hot petroleum, and setting aside the solution for some time, a quantity of an impure fatty acid was obtained, exhibiting the properties of palmitic acid. From the petroleum solution the capsaicin was removed by rectified spirits, but only from 3 to 4 drachms of the slightly impure principle was obtained. By crystallization from ether, large crystals of perfectly pure capsaicin were obtained.

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* See abstract of paper by Dr. Wright, in New Rem. of May last, p. 132.

Burnt with lead chromate, .356 gramme gave .9105 CO_2 and .2995 H_2O; .381 gramme gave .9745 CO_2 and .318 8_2O.

These results agree closely with the formula $C_6H_{14}O_2$ obtained by Dr. Buri from a sample of capsaicin prepared from Natal pepper.

The products of its oxidation by nitric acid were oxalic and succinic acids, an unexamined crystalline acid, and an oily substance.

The coloring matter of cayenne was also isolated by treating cayenne (which had previously been exhausted with alcohol) with benzine, and evaporating. A deep orange-red oily liquid is obtained, almost insoluble in alcohol, very soluble in chloroform, ether, amyl alcohol, benzine, carbon disulphide, fixed and volatile oils. It is also readily soluble in an alcoholic solution of castor oil or palmitic acid.]

Mr. Gerrard said that, in accordance with a request from Mr. Thresh, he had asked Dr. Ringer to make therapeutical trials of the capsaicin, and he had administered some in doses of $\frac{1}{28}$ of a grain, but it had such a violent griping effect, accompanied with a purgative action, that its use as a remedy had been abandoned.

Professor Redwood said it was important to observe the difference between capsicin and capsaicin. Evidently the latter preparation was too powerful as a medicine, and except that it was desirable to know as much as possible about the proximate principles of substances employed in medicine, he did not exactly see that any practical good was likely to result from further inquiry into this alkaloid, which, it appeared, was somewhat costly to produce. He mentioned that the ordinary oleo-resin capsicin, with common salt, colored, if necessary, with annatto, was used by chemists in some parts of the country to produce the so-called soluble cayenne pepper.

Mr. Gerrard, in reply to Mr. Groves, said that the capsaicin dissolved in glycerine and alcohol had been applied externally. It caused redness, but did not blister.

W. A. Tilden: "Essential Oils with Special Reference to the Hydrocarbons contained in them." Mr. Tilden made a long report of an investigation into the characteristics of various terpenes, after a process devised by the author, which consists in passing nitrosyl chloride gas (NOCl) into the terpene, either pure or diluted with chloroform or alcohol, and cooled to −10° C. A white crystalline body is deposited, which is found to be a compound of one molecule of terpene and one molecule of nitrosyl chloride. Its formula is therefore always $C_{10}H_{16}NOCl$, and it is to be observed that this result only occurs with terpenes of the formula $C_{10}H_{16}$. The polymeric hydrocarbons do not yield the reaction.

From the compound named, HCl is removed and nitroso compounds are left, having special characters and crystalline forms, which serve to distinguish the terpenes from each other. French and American turpentines yielded nitroso-derivatives which agree in solubility and melting-point, but the crystals of which are readily distinguishable. The terpenes of juniper and sage oils yield compounds similar to that from French turpentine, and the author regards these terpenes as allotropic.

Experiments with oil of savin convince the author that this oil has not, as has generally been said, the same composition as oil of turpentine; its terpene has not the same formula. By repeated fractional distillation of the oil a liquid was obtained—not more than 5 per cent. of the whole—which turned out to be not a terpene, but to contain oxygen, and to be isomeric with ordinary camphor. Lavender oil, too, the author concludes to be a mixture of liquid camphors. The terpenes of oil of caraway, sweet orange-peel, bergamot, and lemon, Dr. Tilden believes to be identical; but the last-named he found a more complicated oil than the others. Whether it is so naturally, or whether his sample was adulterated, was not quite clear. It is often said that essence of lemon becomes converted into oil of turpentine after standing. Dr. Tilden would like to receive samples and details of any reliable instance of such conversion.

Mr. Umney said he thought some of the physical properties of certain oils were likely to vary according to the sources from which they were derived. Oil of caraway, for instance, was prepared indiscriminately from Dutch and Mogador caraways.

Mr. Groves said it would be very useful if some one could tell how to prevent the change in flavor which was noticeable in some oils on keeping.

Dr. Wright said he knew that some perfumers adopted the plan of keeping their oils in tightly stoppered bottles, and filling up with water as any of the oil was removed.

Mr. Schacht thought it was a curious fact, seeing that Mr. Tilden had noted that the aromatic principle itself contained oxygen, that a further oxidation should spoil the aroma.

Mr. Atkins said he had kept different portions of the same sample, the one in his cellar, the other on the shelf of the shop, in similar stoppered bottles, and had found the latter spoil, while the former remained perfectly sweet. This he had tried with the oils of rosemary and lemon. He believed the action of gas was very injurious to essential oils.]

M. M. Pattison Muir: "On Essential Oil of Sage." [The writer presented the second part of a paper (see p. 560, *Year Book of Pharmacy* for 1876) detailing the properties of the two terpenes obtained from sage oil. The lower boiling terpene was almost certainly identical with the terpene obtained from French turpentine oil. The terpene of higher boiling-point most probably contained traces of a hydrocarbon belonging to the $C_{15}H_{24}$ group. Both terpenes contained small quantities of cymene; when freed from this body neither yielded terephthalic acid on oxidation. Analyses and vapor density determinations of the oxidized liquid constituent of sage oil (salviol) led to the formula $C_{10}H_{16}O$ as expressing the composition and molecular weight of this substance. Sage camphor is also shown to have the same formula, but is isomeric, not identical with ordinary camphor.]

Robert H. Davies: "The Constituents of Ivy Berries —Hederic Acid." [This paper stated that so-called "hederic acid," having been obtained in a pure condition, was submitted to ultimate analysis, and as the result of five analyses, Mr. Davies deduced the formula $C_{16}H_{26}O_4$.

Hederic acid did not seem to produce salts; in fact, it was not an acid at all, though this name had better be retained, Mr. Davies thought, until some further information regarding its constitution was obtained.

A nitro substitution product has been obtained which has the formula $C_{16}H_{25}(NO_2)O_4$.

A lead compound and a bromo substitution product had also been formed, but were not yet analyzed.

The destructive distillation of this hederic acid gave rise to fatty substances, which distilled over, and an inflammable gas, which escaped. Results, chemically interesting, were expected from an examination of these fatty substances.]

John Eliot Howard: "On the Supply of Cinchona Bark as connected with the Present Price of Quinia." [This paper attracted great attention, and elicited an extended discussion. The author dwelt upon the present high price of quinia, and discussed the causes which have led to it. It appears that the war, which has told with lamentable effect on the Colombian districts of South America, has entirely deranged the collection of bark in those quarters which have usually yielded to the quinia manufacturers the bulk of their raw material. Hence had arisen a dearth in the supply which would have amounted to an actual famine but for the imports from the cinchona plantations of India. The planters have consequently realized large sums of money, the Ootacamund plantation alone yielding the Indian Government as much as 35,000*l*. This state of prosperity Mr. Howard believes to be of a transient nature, except in those cases where scientific knowledge was combined with practical skill in cultivation. The leading species of cinchona improve by cultivation, but the inferior sorts will scarcely pay for planting and care when the reaction from present high prices had fully set in, as it certainly would, according to Mr. Howard's view, at a more or less distant future.

As regards the medical value and probable price of the (so-called) inferior alkaloids, Mr. Howard thought that cinchonidia, from its very abundant production in nature, and especially in the now much cultivated *C. succirubra*, was likely to remain at a low price compared with quinia. Both this alkaloid and quinidia would probably be found in many cases superior even to quinia. Cinchonia, Mr. Howard considered, would never be so valuable as either of these, and the other (mostly non-crystallizable) alkaloids were of even less worth. One of the latter he suspected of emetic properties. He thought that all these questions should be settled by competent authority.

In the prolonged discussion which followed, the majority of the members who participated expressed their belief that other alkaloids of cinchona besides quinia were worthy of more extensive employment than they have yet had. It was urged that the members should use their influence to promote the adoption of cinchonidia, against which action Mr. Schacht protested. He thought that it best became pharmacists always to recommend the best thing; and although, perhaps, these alkaloids had been too much disparaged, there was a concurrence of evidence to the effect that quinia was the best of all, and he thought no physician, for the sake of saving the fraction of a penny per dose, should give a medicine at all inferior.]

Mr. W. W. Stoddart: "Notes on an Impurity of Oxide of Zinc." [The author had analyzed a sample of oxide of zinc which had been bought for mixing with white lead as a paint, but had been found to be nearly useless. The sample answered well to all the pharmacopœial tests for pure oxide of zinc, and yet was impure to the extent of nearly 10 per cent. An analysis showed the following composition:

	Parts.
Oxide of zinc	90.87
Sulphite of zinc	9.13
Sulphate of zinc, a very slight trace.	
Total	100.00

The trace of sulphate was so small that it was probably due to the oxidation of the sulphite. The cause of the presence of sulphite of zinc was not quite apparent, but the sample came from a continental house, and was very likely manufactured from the sulphide of zinc in some rapid and imperfect manner, which had partially oxidized some of the sulphide and produced an impure product.]

B. S. Proctor: "Supplementary Note on the Assay of Opium." [Mr. Proctor recommended the process described at the last meeting (New Rem., v., p. 303), and spoke of a modification by which percolation of spirit through opium was expedited. The treatment of intractable samples was next considered, and the conclusion arrived at that the process already proposed, with the addition of a second solution of the morphia in spirit and acid, and precipitation by ammonia, was better than any other modification which had been tried.

To Mr. Cleaver's objection made last year to Mr. Proctor's mode of analysis, that 1 part in 1,000 of morphia was carried off in the washing-water, Mr. Proctor now brought evidence to show that the latter contained only 1 part of morphia in 7,000.]

Mr. Charles Symes: "Sugar in Pharmacy." [See page 261.]

A. W. Gerrard: "The Proximate Principles of the *Narcissus Pseudo-Narcissus.*" [The natural order Amaryllidaceæ, to which the plant forming the subject of the author's notice belongs, has a reputation for producing many plants of a poisonous character.

The popular name of the plant examined in the present instance was the daffodil. At the time the investigation was undertaken, bulbs only were obtainable, and to these Mr. Gerrard's observations were confined. By preparing an alcoholic extract and removing from it some oil and resinous matters with ether, then treating the extract with caustic potash and ether, a residue was obtained, partly crystalline and of alkaline reaction. The crystals, which were very difficult to separate, proved not to be an alkaloid, but, so far as their examination was carried, are believed to be a neutral principle; the viscous matter, however, in which the crystals were imbedded, proved to be an alkaloid of well-marked reactions, which the author has provisionally termed pseudo-narcissine. The whole of the alkaloid obtained was converted into a nitrate, and required at once for Ringer's experiments; so that no attempts were made to prepare from it crystalline salts of the various acids. A few drops of the pseudo-narcissine nitrate, placed on a watch-glass, yielded in about a week some indifferent granular-looking crystals.

From the exhausted parent-extract was obtained, by exclusion of other matters with alcohol, an ultimate residue of a saccharine character.

Professor Ringer's experiments show that, administered hypodermically to warm-blooded animals, it causes profuse salivation, with running at the eyes and nose, also free vomiting and slight diarrhœa. On man, administered by the mouth, it acts as on animals, producing salivation, occasionally tears, sickness, and diarrhœa; dropped into the eye, it first slightly contracts, and then dilates the pupil. These remarks apply to the alkaloid only; the extract in some respects is far more powerful; hence, it is probable that the salivating principle, which is the alkaloid, and the principles which produce sickness and diarrhœa, and are contained in the extract, are totally distinct. These latter points will, if possible, be determined].

Martin: "Diphenylamine as a Test for Nitric and Nitrous Acids." [In a short paper Mr. N. H. Martin drew attention to the value of diphenylamine as a test for nitric and nitrous acids. A small quantity of the chemical the size of a mustard seed, was put in a test-tube, a little sulphuric acid (about 1 drachm) poured over it, and a few drops of water added to it to develop heat. A single drop of a solution containing 1 drop of nitric acid in a pint of water was added to the test-liquid, and instantly a distinct blue color was developed.]

Mr. J. C. Thresh: "The Pill Masses of the B. P. which are of an Inconvenient Consistence, or Acquire that Condition by Keeping." [The writer said there were seven B. P. pill masses which required some modification in their formulæ, as they either had, or acquired, a consistence unsuitable for dispensing.

Pil. aloes et assaf. should have the amount of soap increased to 1½ ozs., and the conserve decreased to ½ oz., when a good mass was formed.

Pil. phosph., though in some respects objectionable, was perhaps as good a form as any yet proposed.

Pil. aloes et ferri could be made into a good keeping consistency by making up with powdered tragacanth and glycerine. The same remark also applied to pil. ferri carb.

The pil. coloc. co., pil. aloes et myrrhæ, and pil. cambogiæ co., were best made up with Proctor's excipient (a mucilage of tragacanth, made with glycerine and water). He exhibited a number of samples of pill masses which had been made with the tragacanth excipients, and all were in excellent condition.

Experiments made with various kinds of aperient pills made up with tragacanth and glycerine, and other excipients, showed that the former were equal in activity to the latter].

Louis Siebold: "On Copaiba Testing." [See p. 265].

W. W. Urwick: "A New Medicinal Solution of Phosphorus." [See p. 263].

Pharmaceutical Journal and Transactions. Nos. 371–373.

D. B. Dott: "Adulterated Sulphate of Morphia." [Reporting to have found in the English market a sulphate of morphia containing 34.63 per cent. of sodium sulphate; the percentage of morphia sulphate—65.37 per cent.—was confirmed by a direct determination.]

W. Dymock: "Notes on Indian Drugs." [*Ocymum pilosum*, local, Tukm i Rihan. The seeds are mucilaginous and slightly stimulant.—*Plantago Psyllium*, local, Bartung. The seeds, commonly called barhang, are in great repute as a remedy in dysentery.—*Centaurea Behen*, local, Suffed Behman. The root is considered nutritive and aphrodisiac.—*Sphæranthus mollis*, local, Moondi. The tops of the plant have a terebinthinate odor; the whole plant is much used as an alterative and purifier of the blood.—*Balsamodendron Opobalsamum*, local name of fruit, Hab ul Balesan. Considered powerfully carminative and digestive.—*Peganum Harmala*, local, Hurmaro and Hurmal. The seeds are emmenagogue, and produce a slight intoxication, like Cannabis Indica.]

Canadian Pharmaceutical Journal.

August. E. B. SHUTTLEWORTH: "Some Experiments on the Physiological Effects of Coca." [Confirming the observations of others as to the invigorating effects of the drug. Doses of 1–1½ drachms chewed in small portions, during any fatiguing work, appear to keep up the muscular vigor in a remarkable manner.].

American Journal of Pharmacy.

August. CHAS. A. BOWMAN: "Examination of Commercial Copaiba." [The author gives a table of the results of his examination of purposely adulterated balsam of copaiba. He failed to find any one reliable test for its purity, but arrives at the conclusion that petroleum benzine will detect the presence of Venice turpentine, and not only the presence, but also very nearly the percentage of castor oil. See also page 265].

CH. C. DRUEDING: "Analysis of Cotton-Root Bark." [Results: Organic constituents—a red and a yellow resinous coloring matter, fixed oil, gum, sugar, tannin, and chlorophyll. Inorganic constituents—potassium, sodium, calcium, magnesium, iron, sulphuric and phosphoric acids.]

FR. V. GREENE: "On the Tannic Acid of Guarana." [The author finds that the tannin of *Paullinia sorbilis* differs in its behavior somewhat from other tannins, and he therefore proposes to call it paullinitannic acid.]

FRED. B. POWER: "Note upon a Reaction of Emetia." [A solution of chlorinated lime produces with emetia a bright orange or lemon-yellow coloration; a trace of the alkaloid upon a porcelain plate touched with the solution, and especially when followed by a trace of a weak acid to liberate hypochlorous acid, is at once colored. Chlorine alone is without action on it.]

FR. V. GREENE: "Fluid Extract of Jaborandi." [Moisten 16 Troy ounces of jaborandi leaves, in moderately fine powder, thoroughly with alcohol of 50 per cent., pack in a conical glass percolator, place a layer of well-washed sand on top of the cloth covering the material, add more of the menstruum until the liquid begins to drop from the percolator, when the lower orifice is to be closed with a cork, and the percolator, securely covered, is to be set aside for four days. Then remove the cork, and gradually add more menstruum, until the material is exhausted. Reserve the first 14 fl. oz., and evaporate the remainder on a water-bath, under stirring, to 2 fl. oz., which are to be added to the reserved portion.]

J. G. SMITH: "Corrosive Sublimate contaminated with Arsenic." [This impurity probably originates from the sulphuric acid used in preparing mercuric sulphate as a preliminary step. Five samples yielded 0.0537, 0.048, 0.032, 0.083, 0.0901 per cent of arsenic acid.]

Liebig's Annalen der Chemie. 187, 2, 3.

C. STAHLSCHMIDT: "On Polyporic Acid." [The author has discovered in a fungus, closely allied to *Polyporus purpurascens*, but as yet undetermined, a new acid, which he suspects to be present also in other fungi. It forms purple salts with alkalies, which are soluble in water; in a free state, it is absolutely insoluble in water. Dry fungi contain about 43% of the pure acid.]

TH. SALZER: "On Hypophosphorous Acid." [The sour syrup, which is produced by allowing pieces of phosphorus, partly immersed in water, to deliquesce in the air, contains phosphorous, phosphoric, and hypophosphorous acids. By adding sodium carbonate or acetate, a very difficultly soluble sodium hypophosphite is formed, which may be easily separated from the other salts. The pure acid is best prepared by first preparing lead hypophosphite (by double decomposition between lead acetate and sodium hypophosphite), and then to decompose the lead salt, suspended in water, by sulphuretted hydrogen. The excess of the latter is removed by heating, and the resulting acid is colorless and odorless. It is permanent in the air, but, if desired in a syrupy condition, must be concentrated at a temperature not exceeding 30° C.; otherwise it splits up into phosphorous and phosphoric acids.]

Gazette Hebdomadaire. Nos. 24–29.

E. RABINET: "Test for Salicylic Acid in Wine or in the Urine." [Take 100 c.c. of wine, precipitate with an excess of acetate of lead, filter, then add an excess of sulphuric acid, which will precipitate the lead, filter again. To the resulting liquid, which will be perfectly clear, add two or three drops of a solution of perchloride of iron, and if there is the least trace of salicylic acid in the wine, a beautiful violet color will be produced. By this method the presence of two or three milligrammes of acid per litre can be ascertained. For the urine this test is even more sensitive.]

CH. MONEL: "Tetrachloride of Carbon as an Anæsthetic." [Struck with the similarity of the formula of tetrachloride of carbon ($C\,Cl_4$) to that of chloroform ($C\,H\,Cl_3$), the author prepared a specimen of it chemically pure and experimented with it as an anæsthetic. The following are his conclusions with regard to it:

"Pure tetrachloride of carbon is a perfect anæsthetic, more powerful than chloroform, but its action can be perfectly regulated. Like chloroform, it momentarily arrests general sensibility and power of motion.

"Numerous experiments have enabled me to follow the three stages of anæsthesia: 1st. The period of excitement. 2d. The period of insensibility. 3d. The period of collapse.

"In the two latter periods its effects are identical with those of chloroform; in the first period the excitement is greater, and more resembles the first stage of anæsthesia produced by ether."]

H. CHOUPPE: "Experimental Researches with reference to Copper as a Poison." [The author concludes, as the result of many experiments, that copper, when administered by the stomach, does not act as a poison, for the reason that, owing to the disagreeable taste which it imparts to the food, and the vomiting which it causes, it is impossible to give it for a long enough time, or in doses sufficiently large.]

M. PORTES: "Investigations regarding Bitter Almonds." [The author states as the result of his experiments, that young bitter almonds contain amygdalin, but their composition is always different from that of sweet almonds. Emulsin is found only in the embryo, which always appears late. Amygdalin first appears in the integument of the seed, but little by little it leaves the integument and penetrates the cotyledon by the radicle.]

Répertoire de Pharmacie. Nos. 14–15.

J. B. GILLE: "On the Preparation of the Yellow Oxide of Mercury." [The author finds that the usual method of precipitating mercuric chloride, with solution of soda or potassa, generally contaminates the product with mercuric carbonate, because the above two caustic alkalies are hardly ever free from carbonates when in solution. The mercuric carbonate might, however, be removed by heating. A better plan, according to the author, is to precipitate by perfectly clear lime-water, decanting and filtering immediately (to prevent formation of calcium carbonate in the supernatant liquid, which should contain an excess of lime-water). Prepared by lime, it has a paler yellow color than if prepared by soda or potassa.]

P. GUYOT: "On the Separation of Nicotia by Dialysis." [The author illustrates the process of dialysis by an example. He places some tobacco-juice from a pipe into a small dialyzer, and floats the latter on water. After the lapse of an hour, the latter contains the whole of the nicotia contained in the juice. Various other mixtures containing tobacco, and organic tissues containing nicotia, yielded the alkaloid to the same treatment.]

YVON: "Syphon Regulator for Continuous Filtration." (See page 264.)

ORIGINAL COMMUNICATIONS.

CORRECTED CORRECTION.

To the Editors of New Remedies.

Gentlemen:—Referring to the correction on p. 213 in the July number of New Remedies, in which the statement is made that Jacob Dunton & Co. have alone the right to manufacture the pill-press figured on p. 171 of your June number, I deem it right to say that my paper in which a simple pill-press was figured was read before the American Pharmaceutical Association in September, 1875, and was dated August 17, 1875.*

An improved form of the same press was described and illustrated by the writer in the March number of the *American Journal of Pharmacy*, 1876, p. 97, and bears date of February 8, 1876.

The application for Jacob Dunton's patent was filed February 18, 1876, and the patent was issued March 14, 1876, which was over six months after my first description of a pill-press appeared.

My paper on the improved press, dated February 8, 1876, which antedates J. Dunton's application, expressly states that no patent has been procured for it, no one has the exclusive right to manufacture, and any who care to are at liberty to use it, have one made by their own mechanic, or buy of either of the makers in this city.

In conclusion, I would say that the pill-press may be procured of H. C. Blair's Sons, A. H. Wirz, I. H. Gemrig, Lentz, etc., etc., of Philadelphia, and that the sale is not limited to any one firm.

Very respectfully,
Joseph P. Remington.

Philadelphia, August 9, 1877.

ETHEREAL EXTRACT OF PUMPKIN-SEED.

To the Editor of New Remedies.

Dear Sir:—I send you herewith a little parcel containing an ethereal extract of the epiderm of pumpkin-seed, on which you had an article in your last number. It was prepared for administration in the case of a little girl, æt. 5, where kousso having failed, the parents insisted on pumpkin-seed, of which ¼ of one pound about were used to produce the desired effect. For preparing it, the woody, fibrous testa was removed and the green epiderm carefully scraped from the seed. On experiment it was found that ether was the best solvent, and the consequent evaporation was not carried too far, so as to avoid the decomposition which such resinous substances are so readily liable to undergo. The preparation of this extract was further prompted by the experience acquired in preparing extracts of bark of pomegranate root and of kameela on former occasions.

The chief desideratum for all of these appears to be the utmost possible care in preparing them.

For making an extract, the pieces of bark of pomegranate root should be very carefully selected, and only such used as show on the plane of breakage (Bruchfläche) a decided green color. For extracting, dilute alcohol, as given in some text-books, appears to answer well.

For extracting kameela, a mixture of alcohol, 3 parts, and ether, 1 part, seems to answer best; the extract may be made perfectly dry.

Only one of the physicians who used these is residing here. He has had but one case, but as I have six cases on record, I may state that pills composed of Fl. Ext. Granati rad. cort. ℥ ss., Extr. Kameelæ ʒ j.–ʒ jss.† seem to answer well. One case of the six failed, and on repetition of the dose, ℈ij. of extract of male-fern were added to the above with success.

The accompanying extract is the product from the epiderm of one pound of commercial pumpkin-seed. It seems that we, over here, may have to wait a good while to test it, and your extended connections may give you an earlier occasion.

Very truly yours,
C. Am Ende.

Hoboken, N. J., August 23, 1877.

ON DIALYSED IRON.

Although we have already published several formulæ for preparing dialysed iron, and have given a general account of its properties, we deem it nevertheless proper to make some further remarks on its composition and uses, particularly as we have permitted ourselves to print,* on the authority of Lebaigne and others, a statement respecting it which is not satisfactorily proven, and might be the cause of disappointments. Most of the circulars and notices of dialysed iron, namely, claim that "it may be used as an antidote for arsenic, as a substitute for the hydrated ferric oxide, its recommendations being the fact that it requires no further preparation, and is conveniently of administration." *It remains, however, to be clearly demonstrated whether dialysed iron is an effective antidote for arsenic; and before this fact is clearly proven, it should not be relied upon as such.* We think this subject of sufficient importance to be at once thoroughly investigated.

Ferric oxide, or sesquioxide of iron has the composition of F_2O_3, when anhydrous. In this condition it is soluble in acids only with great difficulty. There exist, however, quite a number of hydrates of this oxide, differing from each other only in the amount of water which they contain. Many of these hydrates are found in nature, as Limonite ($2Fe_2O_3,H_2O$), Turgite ($2Fe_2O_3,H_2O$), Xanthosiderite ($F_2O_3,2H_2O$), Goethite (Fe_2O_3,H_2O), etc. Iron-rust is likewise a hydrated ferric-oxide, of the composition $Fe_2O_3 + Fe_2(HO)_6$, and always contains small quantities of ammonia.

The normal hydrated oxide ($Fe_2O_3,3H_2O$, or $Fe_2(HO)_6$) is produced by decomposing a dilute solution of ferric chloride or sulphate with ammonia, forming a light-brown voluminous precipitate, which is easily soluble, while still fresh, in dilute acids. Long-keeping, even under water, causes it to become crystalline and less readily soluble. Addition of glycerine, however, almost entirely prevents this change, and pulpy hydrated oxide of iron may be kept soluble almost indefinitely by means of this agent. If a large excess of ammonia had been used to precipitate it, it retains a portion of the ammonia even after washing with boiling water. On the other hand, if an insufficient quantity of ammonia was employed, the precipitate is in reality not hydrated ferric oxide, but rather a basic form of the employed salt. For instance, the precipitate produced in ferric sulphate by an insufficient amount of ammonia contains considerable quantities of sulphuric acid. Concentrated solutions of ferric acid salts, when precipitated by ammonia, yield hydrates which contain less water than the normal oxide.

Under certain conditions the hydrated ferric oxide may be obtained in a soluble form. But this is in reality not the pure oxide, but a compound of it with a very small quantity of acid, that is, a basic salt. In other words, under certain conditions a small quantity of a neutral ferric salt (as chloride or sulphate) is capable of dissolving or retaining in solution a large quantity of ferric hydrate. Two such varieties of soluble ferric hydrate are known. One is the so-called *colloid hydrate*, and the other the soluble *metahydrate*. The former is obtained in the known manner by dialysing a solution of *ferric chloride* or *acetate*. The liquid finally remaining in the dialyser contains in the first case 98.5 per cent. ferric hydrate and 1.5 per cent. hydrochloric acid; and in the second case 94 per cent. ferric hydrate and 6 per cent. acetic acid. Both coagulate on addition of sulphuric acid, neutral salts, or alkalies, to a mass resembling a clot of blood, having the same properties as to solubility, etc., as the normal ferric hydrate. The soluble *metahydrate* is produced by heating, in a closed tube, a solution of ferric acetate to 100° C., or by boiling a very dilute solution of ferric chloride. In the case of the acetate the color changes from blood-red to brick-red, and the liquid is clear by transmitted light, but remarkably opalescent by reflected light. The precipitate which is produced in this latter solution by sulphuric acid, neutral salts or alkalies, is *insoluble* in concentrated acids, but easily *soluble* in water. On porous plates it dries to a shining varnish, the watery solution of which gives no iron reaction with potassium ferrocyanide. The different solubility in acids of the separated hydrates, and the behavior of the original solutions towards small quantities of ammonium chloride, whereby the colloid iron is immediately thrown down, while the metahydrate solution remains clear, distinguishes the two varieties of soluble ferric oxide.

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* See Proceedings Am. Pharm. Assoc., 1875.

† Extr. Kameela varies according to constitution, etc., as its action is quite drastic.

* June Number, pg. 182, 2d col., lines 9-13.

The statement which we have repeatedly seen lately, that dialysed iron is *entirely* freed from acid, is therefore erroneous. The hydrochloric acid, or chlorine, although not susceptible of being directly precipitated, is still present. It is only necessary to boil the dialysed iron with dilute nitric acid, to precipitate with sodium carbonate, and to add to the filtrate, acidified with a few drops of nitric acid, solution of silver nitrate, when the characteristic precipitate of silver chloride will make its appearance.

ON THE SULPHATES OF QUINIDIA AND CINCHONIDIA.

THE high price of quinia sulphate has induced many physicians to pay more attention to the therapeutical value of the other cheaper alkaloids of cinchona, and in consequence thereof the consumption of the latter has within the past year considerably increased. Among these alkaloids quinidia has been assigned the highest rank as to effectiveness, cinchonidia being but little inferior. There is, however, a good deal of confusion in the nomenclature of the cinchona alkaloids, especially among manufacturers, and particularly with respect to the alkaloids quinidia and cinchonidia. To clear up this doubt, and to draw the attention of pharmacists and physicians again to this matter, we here insert an account given by Mr. Bouchardat in *L'Union Pharm.*, 1877, 69.

Cinchonidia was discovered by Winckler in 1848;[*] its sulphate had been long known and designated as "sulphate of quinidia" by A. Delondre (who, together with O. Henri, discovered in 1833 the true alkaloid quinidia;[†] by F. Boudet and Bouchardat (who noticed its peculiar rotatory power);[‡] and by German manufacturers of cinchona alkaloids. Pasteur[§] demonstrated its isomerism with cinchonia and dispelled all uncertainty in regard to it.

The rotatory power of cinchonidia has since then been rigorously determined by Oudemans, and by G. Bouchardat (fils), upon the pure alkaloids, both of whom obtained exactly the same results.

Commercial sulphate of cinchonidia is often mixed with a small quantity of sulphate of quinidia, from which it has not been entirely separated in the course of manufacture.

Sulphate of *quinidia* is a much scarcer article in trade than the cinchonidia salt. It was extracted by Delondre and O. Henri from the yellowish solution remaining after the separation of quinia and cinchonia from Calisaya bark, which latter has, however, long ceased to be the principal source of this alkaloid.

Van Heijningen obtained it from the complex substance known as chinoidine, and gave to it the name of β quinine.[**]

Winckler extracted cinchonidia from a bark, which he found to have great resemblance to Huamali bark, as well as from Maracaïbo bark.

The same base exists also, in considerable quantities, in the barks which are gathered to the north of Bogotá, at Velez, Socorro, Pamplona, and Ocania. It is probable that these, or allied species, are identical with some of those now cultivated in Java or India.

According to de Vrij, the best source for the preparation of cinchonidia is the bark of *Cinchona succirubra*, cultivated in British India and upon Java. This bark is very rich in alkaloids, containing from 5 to 10 per cent., which corresponds to 25 to 50 grammes per pound; and among these cinchonidia is predominant. Mr. de Vrij has lately analyzed a red bark, containing as much as 10.27 per cent. of mixed alkaloids, among which 6.47 was cinchonidia.

In addition to this, a New Granada bark must be mentioned here, which is very rich in cinchonidia. Mr. E. Rampon states "that this bark has the same texture as *C. cordifolia*, but its external surface when stripped presents a rose, or a more or less red tint, very characteristic to a practised eye. This is the bark which Delondre and Bouchardat have figured and described in their quinology, under one of its forms as 'Rose-colored Carthagena Bark,' and under its other form as 'Red Mutis Bark.' Indeed, the larger pieces resemble those of red cinchona, but its texture and chemical composition is entirely different. This bark, against which much has been written in Germany, and the chief alkaloid of which was rejected, has later come into great favor. Indeed, cinchonidia is equally as effective as quinia. It has been much used abroad."

Bouchardat has employed cinchonidia as an antipyretic since 1856; and Grisolle has likewise used it under its improper name, "*quinidia sulphate.*"

There is no further argument necessary to convince physicians of the equal therapeutical value of quinia and cinchonidia. The latter besides possesses the advantage that it is much cheaper than the former.

But it must be remembered that a good deal of cinchonidia sulphate is sold under the improper name of quinidia sulphate; and there are generally two grades of the latter quoted in price-lists: one as "quinidia sulphate I.," which is said to be tolerably pure: the other as "quinidia sulphate II.," which consists almost entirely of cinchonidia sulphate. In purchasing quinidia sulphate, therefore, it should be carefully examined, and, if it contain more than 3 per cent. of cinchonidia, it should be rejected. This amount of impurity is admissible for the sole reason that a further separation of the two bases so enhances the price of the product as to place it among the dear alkaloids.

It should, however, be added, that these distinctions between several grades of quinidia refer exclusively to that manufactured in Europe. So far as our knowledge and information goes, the American product is pure, and, we believe, may be used with confidence.

CONTRIBUTIONS FROM THE SCHOOL OF PHARMACY, UNIVERSITY OF MICHIGAN.

2. Analysis of Ten Samples of Baking Powder.

BY W. L. LONG, PH.C.

BAKING powders, as found in commerce, consist principally of potassium bitartrate and sodium bicarbonate, with more or less flour or starch. Many also contain alum—an unnecessary and harmful impurity.

A small amount of flour or starch (about 6 per cent.) is beneficial, as it prevents the mixture of potassium bitartrate and sodium bicarbonate from becoming moist, as it often does when no starch is present.

The starch was detected by iodine, and examined with the microscope to determine what kind. Sometimes it was present as wheat flour, sometimes as corn starch, and in one case a mixture of potato and corn starches. The starch was converted into glucose by boiling with dilute mineral acid. The glucose was then estimated by standard solution of potassic cupric tartrate, and from the amount of glucose found the amount of starch was calculated.[*]

Wheat flour, when present, was calculated from the amount of starch found. According to Hassall,[†] seventy per cent. of wheat flour is starch. As only traces of calcium sulphate were present in any of the samples, all the sulphuric acid found was calculated as alum.

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[*] *Répert de Pharm.*, 48, 394.

[†] *Jour. de Pharm.*, 19, 623.

[‡] *Jour. de Pharm.*, 23, 288.

[§] *Comptes Rend.*, 36, 26, 37. 110.

[**] *Ann. d. Chem. u. Pharm.*, 72, 301.

[*] "*Prescott's Proximate Organic Analysis*," p. 171.

[†] "*Hassall's Foods and Adulterations.*"

Potassium bitartrate was estimated from the amount of tartaric acid found; and sodium bicarbonate, by difference.

Of the ten samples examined, three gave a slightly acid reaction when dissolved in water, six were neutral, and one strongly alkaline.

No.	Flour or Starch.	Alum.	Potassium Bitartrate.	Sodium Bicarb.
1	6.		52..	40.
2	9.	2.4	25.	40.
3	14.		48.	37.
4	7.		52.	40.
5	6.		52.	40.
6	5.	10.	41.	40.
7	8.	7.	45.	40.
8	11.	3	45.	36.
9	23.		24.	52.
10	4.	40.	4.	48.

3. Analysis of Twelve Samples of Cream Tartar.

BY CLARENCE G. STONE, PH.C.

OUT of twelve samples analyzed, only two were found which contained no calcium tartrate, and these were heavily adulterated with calcium sulphate and potassium sulphate. Nine contained more calcium tartrate than the amount allowed by the U. S. Pharmacopœia (5 per cent.), and only one less. None of these samples contained alum or flour. The cream tartar sold by druggists was found to be much better than that obtained from grocers.

The impurities were estimated quantitatively, and the potassium bitartrate calculated by difference. The following is a tabular statement:

No.	Calcium Tartrate.	Calcium Sulphate.	Potassium Sulphate.	Potassium Bitartrate.
1	3.6			96.4
2	6.			94.
3	6.3			93.7
4	7.6			92.4
5	6.1			93.9
6	6.6			93.4
7		64.3	3.3	32.
8		61.6	16.7	21.7
9	8.			92.
10	5.4			94.6
11	6.9			93.1
12	6.			94.

AMERICAN PHARMACEUTICAL ASSOCIATION.

THE Twenty-fifth Annual Session of the Association assembled at Toronto, on September 4, 1877, in the rooms of the City Council, at the City Hall.

The meeting was called to order by the President, Mr. Chas. Bullock, of Philadelphia, at 3.35 P.M.

DELEGATES.

Credentials of the various delegations being called for, the following were handed in, and referred to a committee consisting of Messrs. R. S. Woodruff, A. B. Petrie, and E. T. Dobbins, who, after a short delay, reported the following as entitled to seats in the convention:

COLLEGES OF PHARMACY:

Ontario: Wm. Elliott, N. C. Love, Hugh Miller, G. J. Waugh, G. Hodgetts.

Massachusetts: Chas. P. Orne, W. S. Folger, G. F. H. Markoe, A. Boyden, F. Bailey.

Louisville: C. L. Diehl, E. C. Pfingst, E. Sheffer, W. W. Smith, V. Davis.

New York: Ch. Rice, F. Hoffmann, H. J. Menninger, M. L. M. Peixotto, A. Tscheppe.

National: R. B. Ferguson, W. S. Thompson, O. Oldberg, A. M. Read, J. A. Milburn.

Maryland: L. Dohme, J. F. Hancock, J. Roberts, F. Hassencamp, E. Eareckson.

Philadelphia: W. H. Pile, A. W. Miller, G. W. Kennedy, W. McIntyre, Ch. L. Eberle.

PHARMACEUTICAL ASSOCIATIONS:

Connecticut: A. F. Wood, A. J. Munson, R. S. Woodruff, J. K. Williams, R. Wells.

New Jersey: E. P. Nichols, A. S. White, W. H. Sayre, R. W. Gardner, R. J. Shaw.

Richmond: T. R. Baker, J. B. Purcell, H. Blair, J. Anthony, B. C. Davis.

Georgia: J. Ingalls, H. P. Tarrant, A. A. Menard.

Newark: E. P. Nichols, R. W. Vandervoort, Ch. Holzhauer, W. H. Stamford, P. J. Garrigan.

New Hampshire: Ch. A. Tufts, C. F. P. Hildreth, E. S. Russell, B. F. Rackley, H. B. Foster.

Kings Co., New York: E. A. Sayre, G. A. Newman, J. O. Barnaby, Ch. Althaus, F. C. Cutts.

Rhode Island: A. P. Brown, A. L. Calder.

German Apothecaries of New York: Ch. Eimer, A. Tscheppe, P. Balluff, F. A. Reichardt, H. J. Menninger.

ALUMNI ASSOCIATIONS OF THE FOLLOWING COLLEGES:

Massachusetts: S. A. D. Sheppard, Ch. A. Tufts, T. Doliver, C. P. Orne, W. W. Bartlett.

Philadelphia: L. Shaw, Ch. A. Weideman, E. C. Jones, Ch. L. Eberle, R. V. Mattison.

Philadelphia (New York Branch): H. S. Wellcome, J. Messing, Jr.

New York: P. W. Bedford, T. F. Main, Chas. A. Robbins.

ALDERMAN WRIGHT, on behalf of the Mayor, welcomed the Association to Toronto and tendered them the use of the City Council Chamber during their stay.

PRESIDENT'S ADDRESS.

During the absence of the committee, the President delivered his opening address, in which he gave an interesting review of pharmacy in the past, tracing its first beginnings from the earliest antiquity to the present time, and concluding with several recommendations in respect to desirable improvements in the working of the Association.

The address was acknowledged by a vote of thanks, and was referred to a committee of three, consisting of Messrs. E. P. Nichols, J. Ingalls, and T. J. Casper, to report on the suggestions contained therein.

INVITATIONS, ETC.

An invitation of Messrs. Gooderham & Worts to visit their distillery was accepted.

On motion, the professors of the University of Toronto, the members of the medical profession, and such other persons as might take an interest in the proceedings, were invited to take seats in the convention.

The appointment of the Committee to Nominate Officers for the ensuing year being next in order, the following were appointed: G. J. Waugh, L. J. Munson, L. Shaw, E. A. Sayre, C. L. Diehl, T. R. Baker, H. P. Tarrant, G. F. H. Markoe, Ch. Holzhauer, Ch. A. Tufts, J. A. Millburn, M L .M. Peixotto, A. Tscheppe, S. A.D. Sheppard, E. Eareckson, R. V. Mattison, H. S. Wellcome, T. F. Main, W. McIntyre, A. L. Calder, A. E. Ebert. The chair appointed in addition to these the following members at large: E. Gregory, Z. J. Belt, J. A. Miller, W. Neergaard, A. S. Lane. On a subsequent motion, the following two members were added to the committee: E. H. Heinitsch, of the South Carolina Pharmaceutical Association, and J. Ronnefeld, of the Michigan State Pharmaceutical Association.

"CENTENNIAL FUND."

DR. AD. W. MILLER, of Philadelphia, the Local Secretary during the centennial year, made an important report on the unexpended balance in the hands of the Entertainment Committee of Philadelphia, in which he stated that a sum of $525.00 had been left over, which the committee tender to the American Pharmaceutical Association, *provided* a like amount be added to it by the members of the Association within one year from this session. This fund shall be known as the "Centennial Fund," and shall be applied to defray actual expenses incurred by members in the pursuit of original investigations on behalf of the Association.

The report was accepted and referred to the Committee on the President's Address.

Membership.

The Chairman of the Executive Committee reported the membership to be 1,160 against 1,066 of the previous year. During the past year five members resigned, 32 were dropped from the rolls, and the following thirteen died: Alex. King, Buffalo, N. Y.; B. H. Reinold, New York; Chas. W. Badger, Newark, N. J.; W. G. Smith, Louisville, Ky.; H. Arn. Hughes, Louisville, Ky.; Ch. Edw. Eyster, Duluth, Minn.; W. J. Bertolett, Shreve, O.; Gust. Mallinckrodt, St. Louis, Mo.; Charles H. Atwood, Boston, Mass.; Max Frohwein, New York; Geo. M. Howard, Washington, D. C.; G. W. Aimar, Charleston, S. C.; H. C. Porter, Towanda, Pa. 148 new members had been enrolled during the year.

Mr. Elliott, the President of the Ontario College, invited the members present to a reception and entertainment to be given on Wednesday evening at the Normal College. This invitation, as well as one received from the Junior Pharmacists of Toronto, were accepted, with thanks.

The Permanent Secretary then presented his report, which, on motion, was accepted, and the recommendations contained therein referred to the Committee on the President's Address.

The President appointed as Committee on Specimens: H. J. Rose, G. F. M. Markoe, Chas. Rice, T. R. Baker, and Alb. E. Ebert.

At this point the meeting was adjourned.

Second Day of the Meeting.

The second session was called to order on Wednesday at 9 A.M. Credentials of the following delegates were handed in, and the same were declared entitled to seats in the Convention: *Chicago College of Pharmacy*—A. E. Ebert, E. H. Sargent, N. G. Bartlett, J. W. Mill, Chas. F. Hartwig. *Maine Pharmaceutical Association*—S. D. Wakefield.

Nominations.

Election of officers being next in order, the Committee on Nominations reported the following list of officers:

President—William Saunders, London, Ontario.

1. *Vice-President*—Ewen McIntyre, New York, N. Y.
2. *Vice-President*—John Ingalls, Macon, Ga.
3. *Vice-President*—Emlen Painter, San Francisco, Cal.

Treasurer—Charles A. Tufts, Dover, N. H.

Permanent Secretary—John M. Maisch, Philadelphia, Pa.

Local Secretary (elected later)—J. D. Rankins, Atlanta, Ga.

Reporter on the Progress of Pharmacy—C. Lewis Diehl, Louisville, Ky.

Executive Committee—Geo. W. Kennedy, Pottsville, Pa.; H. P. Tarrant, Augusta, Ga.; A. L. Calder, Providence, R. I.; J. G. Steele, San Francisco, Cal.; John M. Maisch, *Perm. Sec'y, ex-officio*, Philadelphia, Pa.

Committee on Drug Market—Wm. H. Wickham, New York, N. Y.; T. R. Baker, Richmond, Va.; S. Carter, Boston, Mass.; H. W. Fuller, Chicago, Ill.; Ch. F. G. Meyer, St. Louis, Mo.

Committee on Papers and Queries—Ed. P. Nichols, Newark, N. J.; J. Shuttleworth, Toronto, Can.; M. L. M. Peixotto, New York, N. Y.

Business Committee—H. J. Menninger, New York, N. Y.; H. S. Wellcome, New York, N. Y.; Wm. Simpson, Raleigh, N. C.

Committee on Prize Essays—C. Lewis Diehl, Louisville, Ky.; J. F. Judge, Cincinnati, O.; E. Sheffer, Louisville, Ky.

Committee on Legislation—John M. Maisch, Philadelphia, Pa.; S. A. D. Sheppard, Boston, Mass.; Ad. Pfeiffer, St. Louis, Mo.

On motion, the President was requested to cast affirmative ballots for the nominated officers, which was carried unanimously, when the ballots were deposited, and the nominees were declared elected. A committee having been appointed to conduct the newly-elected President to the chair, during their absence the following were proposed as candidates for membership in the Association, and elected:

New Members.

J. Falc, Hawkinsville, Ga.; Burt P. Gates, Saratoga Springs, N. Y.; Carrol E. Gates, Saratoga Springs, N. Y.; J. Choate, Fitchburg, Mass.; Wm. H. Gray, Springfield, Mass.; Frank G. Somers, Detroit, Mich.; Geo. R. Armstrong, South Charleston, O.; James T. Renouff, Winsted, Conn.; Em. L. Borner, Iowa City, Iowa; Ed. Dana, jr., Portland, Me.; Rob. E. Parsons, Orange, Essex Co., N. J.; Wm. Ed. Lindewald, Philadelphia, Pa.; Jos. P. Evans, West Chester, Pa.; O. M. Oleson, Fort Dodge, Iowa; Thos. P. Cook, Philadelphia, Pa.; Isaac M. Seltzer, N. Y.; C. B. Elbe, Alameda, Cal.; Wm. C. Brigham, Medford, Mass.; Dan. H. Howard, Medford, Mass.; Fr. Raas, Brooklyn, N. Y.; Ed. P. Burley, Boston, Mass.; Geo. H. Stoddard, Boston, Mass.; H. A. Knowles, Toronto, Ont.; Geo. Hodgetts, Toronto, Ont.; T. Jordan, Goderich, Ont.; R. B. Hall, Macon, Ga.; Wm. Elliott, Toronto, Ont.; John Henderson, Toronto, Ont.; Wm. S. Milliner, Spenceport, N. Y.; T. H. Sands, Pennington, Saratoga Springs, N. Y.; J. P. Scherff, Bloomfield, N. J.; Wm. L. Robinson, Yorkville, Ont.; Osc. C. Dudley, N. Y.; Fr. C. Miville, Manchester, N. H.; Adolph Levy, Brooklyn, N. Y.; Wm. G. Mortimer, New York, N. Y.; John C. Lander, Yorkville, Ont.; B. A. Mitchell, London, Ont.; E. B. Shuttleworth, Toronto, Ont.; J. D. Rankins, Atlanta, Ga.; H. J. Marshall, Aurora, Ind.; H. E. Ahlbrandt, St. Louis, Mo.; L. S. Cohen, New York, N. Y.; E. Harvey, Toronto, Ont.; George Massey, Toronto, Ont. The following were elected Honorary Members of the Association: M. Planchon, Paris, France; H. A. L. Wiggers, Göttingen, Germany; Xav. Landerer, Athens, Greece; Ed. Schaer, Zurich, Switzerland.

The President-Elect.

The newly-elected President, William Saunders, having been conducted to the chair, after a brief but eloquent address of welcome, the business of the session was continued.

Treasurer's and other Reports.

The Treasurer reported the receipts of the past year to have been $6,514.27, and the disbursements $5,559.98, leaving a balance in the treasury of $954.29. The report was accepted and referred to an *Auditing Committee*, who at a subsequent session reported the accounts correct. Mr. John Ingalls, of Macon, Ga., then arose, and in a most cordial manner invited the Association to meet next year in Atlanta, Ga. The proposition was referred to a committee of three, to report on the time and place of next meeting. Prof. C. L. Diehl read the introductory part of his *Report on the Progress of Pharmacy*, which was referred to the Committee on Publication. The report of the *Committee on Prize Essays* having been read, on motion of Dr. E. R. Squibb the recommendations contained therein were referred to the new Committee on Prize Essays for report. The Committee on *Adulterations and Sophistications* presented their report, which was read by the Secretary. Prof. J. P. Remington read a "*Supplementary Report on the Centennial Exhibition*," all of which were referred for publication. At the close of the session the members adjourned to view the exhibition of pharmaceutical and chemical specimens at Temperance Hall. [See pp. 280, 281.]

Afternoon Session.

The afternoon session of Wednesday having been called to order at 3 o'clock, the Business Committee moved to act on the proposed amendment to by-laws, proposed by Ch. L. Eberle, which consisted in the addition to Chap. 7, Art. 10, the following:

"A motion to expel a member shall be laid over to the session next succeeding that at which a motion is made."

After some discussion the amendment was adopted.

At this point His Worship, Angus Morrison, the Mayor of Toronto, entered the room, and having been presented by the President, extended to the members present the welcome and hospitalities of the city.

PLACE OF MEETING NEXT YEAR.

The *Committee on Time and Place of next Meeting* then presented their report, recommending the next meeting to be held at Atlanta, Ga., on the 3d Tuesday in September, 1878. Various amendments, altering the time, having been proposed, and the fears of the members as to the insalubrity of the meeting-place at an earlier day having been allayed by several Southern members, it was finally resolved to meet next year at Atlanta, Ga., on the first Tuesday in September.

VOLUNTEER PAPERS AND ANSWERS TO QUERIES.

L. MYERS CONNOR (Dallas, Tex.): "Syrup of the Iodide of Iron."

J. U. LLOYD (Cincinnati, O.): "On Officinal Fluid Extracts."—The effect of using percolators of varying diameters in the preparation of the same fluid extract from a finely powdered drug, is to produce greatly varying products. According to the author, the height which a powder should occupy in the percolator is of great importance; he thinks that 16 troy ounces of a moistened powder should occupy a space at least 15 inches high.

The following fluid extracts should be prepared with strong alcohol, as this would exclude much inert matter: Stillingia, Hyoscyamus, Matico, Belladonna root, Hydrastis Canadensis, Digitalis. The first four of these, as well as that of Colchicum root and seed, may also, perhaps, be made by the officinal process, finishing the percolation, however, with a menstruum consisting of 3 parts of alcohol and 1 of water. In the case of Hydrastis and Colombo this may also be done, substituting a menstruum of 7 p. of alcohol and one of water. The author rejects acetic acid in fluid extract of ergot, and uses a menstruum of 3 parts of water and 1 p. of alcohol. The gelatinizing of officinal fluid extract of geranium may be avoided by using the author's process for preparing fluid extract of fresh cotton-root bark.* Fluid extract of ipecac should be prepared by adding 8 fl. oz. of water and the acetic acid to the percolate before evaporation. It should *not* be boiled.

2. CHAS. A. ROBBINS (New York): "Veratrum Viride." The author has re-examined the alkaloids contained in this drug, and obtained from a liquid preparation made from the fluid extract, and deprived of its resin. Addition to the liquid of sodium bicarbonate produced a precipitate, which was found to consist of jervia, resin, and coloring matter. The remaining fluid yielded to ether, on shaking, a substance which appeared, after the evaporation of the ether, in the form of crystalline scales. A small quantity of this causes sneezing, like veratria. This seems to be a new substance, as it does not give any of the reactions for veratria, and is very poisonous. Parallel physiological experiments upon rabbits and frogs with veratria and the new substance, also indicated their difference of nature. The substance is named by the author provisionally *veratridia*.

3. ADOLPH W. MILLER (Philadelphia): "On the Use of Cassia Fistula in Confection of Senna." Although the use of purging cassia is perfectly legitimate and universally adhered to in the preparation of confection of senna, it might, perhaps, better be left out, as it is apt to gripe. Figs are also considered useless, because the numerous seeds, which themselves are supposed to be the main cause of the purging action, are excluded. The only other two purging ingredients (prunes and tamarinds) would, therefore, have to be increased. The following formula is therefore proposed:

Take of senna, in fine powder, 8 troy oz.; coriander, in fine powder, 4 troy oz.; tamarind, 16 troy oz.; prunes, sliced, 17 troy oz.; sugar, in coarse powder, 30 troy oz.; water, q. s. Place the tamarinds and prunes in a close vessel with 3 pints of water, and digest for 3 hours by means of a water-bath. Separate the coarser portions with the hand, and rub the pulpy mass, first through a hair sieve, and then through a fine one, or through a muslin cloth. Mix the residue with a pint of water, and, having digested the mixture for a short time, treat it as before, and add the product to the pulpy liquid first obtained. Then, by a water-bath, dissolve the sugar in the pulpy liquid, and evaporate the whole until it weighs 84 troy oz. Lastly, add the senna and coriander, and incorporate thoroughly. The whole should weigh 96 troy oz.

The corresponding formula of the German Pharmacopœia is still simpler, and even deserves the preference.

10. JOS. ROBERTS (Baltimore). "Cantharidal Collodion." The formula in the pharmacopœia being faulty, and not being followed by manufacturers, the author appends a working formula: Mix 8 troy oz. of powdered cantharides with 4 fl. oz. of stronger alcohol, pack in displacer, add 4 fl. oz. of stronger ether, cork the orifice, and cover the funnel. After 12 hours remove the cork and percolate with a menstruum of equal parts of ether and alcohol, until 15 fl. oz. have passed, which reserve. Collect 4 fl. oz. more, which evaporate to 1 fl. oz., and add to the first. Then dissolve in it 144 grains of pyroxylin.

15. W. S. THOMPSON (Baltimore). "Oleates of Mercury, Morphia, Quinia, etc."—*Oleate of mercury* (10 per cent.). The author dissolves mercuric oxide (1 troy oz.) in nitric acid (6 fl. dr.), filters the solution into a dish containing 6 fl. oz. of liquor sodæ, and washes the precipitate thoroughly by decantation. The dish containing the moist pulp is then placed on a water-bath, the oleic acid (2½ troy oz.) is added, and stirred until combined, adding if necessary a little boiling water occasionally. Evaporate off all trace of moisture, and then add enough cosmoline to make the product weigh 10 Troy oz.—*Oleate of aconitia* (3 per cent.). Dissolve 5 grains of aconitia in 1 fl. dr. of alcohol, add to it 30 min. of oleic acid, heat on water-bath, until alcohol is evaporated, and add 465 grs. of cosmoline.—*Oleate of atropia* (1 per cent.). Same process.—*Oleate of quinia* (25 per cent.) Precipitate 145 grs. of quinia sulphate, place the washed magma into a capsule on a water-bath, and add 240 grs. of oleic acid, heat until combined, remove the adherent water, and add cosmoline until the product weighs 432 grs. The author gives some other formulæ for oleates, which are all made on the same plan.

16. G. W. KENNEDY (Pottsville, Pa.). "The Quantity and Quality of Aqueous Extract of Aloes, extracted by Hot or Cold Water." Hot water extracts 83 per cent., and cold water 47 per cent. of soluble matters. The cold water extract was found to be more active.

20. DAVID HAYS (New York). "On the Increase of the Solubility of Salicylic Acid by certain Salts, and an Inquiry into the Chemical Changes produced thereby." Sodium phosphate was the first salt experimented with. This, when dried, is capable of dissolving half its weight of the acid. 1 dr. of sodium phosphate and ½ dr. of the acid, when dissolved, the solution filtered and cautiously evaporated, produce a dirty, cream-colored mass, which, after removal of the mother-water, was found to consist of minute shining crystals, giving reactions of all the original substances employed. A quantity of these were shaken with alcohol in a test-tube, by which treatment they partly dissolved, and yielded a cloudy solution with formation of transparent crystals upon the side of the tube. This treatment with alcohol was repeated to *exhaustion*. After draining, the crystals dissolved in water gave a clear solution. This solution gave *no* reaction for salicylic acid, but contained only sodium phosphate. The alcoholic solution gave reaction of salicylic acid, but, besides, gave distinct evidence of the presence of sodium salicylate (a small quantity being heated on platinum, melts, deflagrates, and leaves a charred mass behind, which forms a very alkaline solution with water, etc.). Hence, it is evident that decomposition has taken place, a portion of the salicylic acid having combined with the alkali. The author supposes the reaction to take place in this way:

$$\underset{\text{Sodium (mono-hydro-) phosphate}}{Na_2HPO_4} + \underset{\text{Salicylic acid}}{2HC_7H_5O_3} = \underset{\text{Sodium salicylate}}{NaC_7H_5O_3} + \underset{\text{Salicylic acid}}{HC_7H_5O_3}$$

$$+ \underset{\text{Sodium (dihydro-) phosphate.}}{NaH_2PO_4.}$$

The same results were obtained by using ammonium phosphate.

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* See Proc. Am. Ph. Asso., 1876, NEW REM., v., p. 304.

Dr. Squibb, in referring to the above paper, stated that he had found the sublimed acid to be most free from impurities. The crystallized acid might be pure or impure, according as the *menstruum* used had been pure or impure. He found the acid useful in preventing microscopic growths in certain solutions, sulphate of atropia, for instance. In his opinion, the reduction of temperature following the internal administration of salicylic acid and its compounds was as certain as that symptoms of poisoning would follow the administration of arsenic. He considered that the dialyzed acid was the most economical to import, as on sublimation it yielded over 92 per cent. of pure acid. It was by accident that he discovered that salicylic acid would sublime by means of a steam process. It had been stated by European authorities that the acid would not be sublimed, although he had sent to Europe several specimens of the acid sublimed in the manner he had mentioned.

27. **Geo. Zellhoefer** (New York): "The Yield of Ergotin by Bonjean's Method, using Various Strengths of Alcohol." The method consists in exhausting finely ground ergot with distilled water and evaporating the infusion on a water-bath to the consistence of honey, then adding a large excess of alcohol to the extract, with constant stirring, to precipitate all the gummy substance. After 24 hours the liquid is filtered off and evaporated to the consistence of a soft extract. When using alcohol of different strengths the yield varies greatly, as the following table shows:

No.	Density of Alcohol.	Yield of Ergotin from One Pound of Ergot.
1	0.817	630 grains or 9. per cent.
2	0.832	800 " " 11.5 "
3	0.860	1050 " " 25. "
4	0.893	1700 " " 24.5 "

The most satisfactory strength is 0.832. The author recommends the following formula: 16 oz. of fine ergot are macerated with three pints of cold distilled water for 12 hours. The liquid is strained and pressed off, the residue once more treated in the same manner, and both liquids together evaporated to 4 oz. by weight on a water-bath. Then 16 fl. oz. of alcohol, spec. gr. 0.832, are added. After 24 hours the liquid is removed, the alcohol recovered by distillation, and the liquid evaporated to an extract, using as little heat as possible.

32. **J. U. Lloyd**: "Glycerine in Fluid Extracts." The author thinks that glycerine is of decided advantage only in the following officinal fluid extracts: pipsissewa, cinchona, dogwood, crane's bill, cotton-root bark, rhatany, matico, rubus vill., and uva ursi, while in the others it is of only equal value with water, and in others of very doubtful value.

40. **A. P. Brown** (Camden, N. J.): "The Therapeutic Value of Aloin compared with Aloes." The author states that in equal doses these two substances produce equal effects, the former perhaps not griping as much as the latter. But aloin does not appear to possess any advantages over aloes.

42. **R. V. Mattison** (Philadelphia): "On Salicylic Acid and its Uses." The author does not give any new results, but only a summary of the existing knowledge.

51. **Jos. Roberts** (Baltimore): "On the Nature of the Compound produced by Camphor and Chloral Hydrate." The compound is doubtlessly merely a solution of chloral hydrate in camphor, although the boiling-point is some 60 degrees lower than that of chloral.

Prof. Albert E. Ebert, of Chicago, submitted two samples of *gum galbanum*, which he said he had bought in Chicago. He said that the article in question contained very little *galbanum*, but was for the most part simply rosin and turpentine.

Prof. P. W. Bedford, of New York, said galbanum, which was strained, could not be pure.

Dr. Henry J. Menninger, of Brooklyn, spoke of some sophistication which had come under his observation.

The Committee on the President's Address brought in their report. It recommended that the question of providing a fund for defraying the expenses of original investigations be referred to a Special Committee. It suggested certain amendments to the Constitution in regard to the payment of initiation fees by delegates, and an additional tax upon life-members under the old Constitution.

The report was accepted, and the meeting adjourned until Thursday morning.

Conversazione at the Normal School.

At eight o'clock, the guests of the Ontario College of Pharmacy assembled in the rooms of the Normal School, the number of ladies in attendance being unusually large. The company was assembled in the theatre, where Dr. Wm. Eliott, President of the College, occupied the chair, and was accompanied by Dr. Hodgins, Deputy Minister of Education, the President-elect, Mr. Wm. Saunders, the retiring President, Mr. Chas. Bullock, and the Permanent Secretary, Prof. Maisch, of the American Pharmaceutical Association. After music by the band of the "Queen's Own Rifles," addresses were made by Dr. Hodgins and Messrs. Elliott and Bullock. Following the performance of "Yankee Doodle" by the band, the company listened to a selection of a dozen vocal pieces and a brief address on the museum and objects of art. During the intermission, and following the address, the company promenaded through the museum and galleries, where, among other objects of interest, microscopic, spectroscopic, and electrical entertainments were given by Dr. F. Wright, Mr. D. K. Winder, and others.

From 9.30 o'clock, refreshments were provided in one of the school buildings.

The reception was in every respect successful and agreeable, and will cause the hospitality of our Canadian friends to be long remembered.

Third Day of the Meeting.

The President called the meeting to order at 9.15 A.M., a large number of ladies as well as members being in attendance.

Reports.

Following the reading and adoption of the Minutes, the Committee on the President's Address read their report, which was discussed, but the decision of the questions involved was postponed to the next Annual Meeting.

The President, as Chairman of the Committee on the Drug Market, then read the report, in which considerable attention was paid to the differences between the drug markets of the United States and Canada, and to the nature of the drugs found in Canada, and their supply.

The time having arrived for the transaction of unfinished business,

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became next the question for discussion.

Dr. Squibb expressed a desire that the subject of improvements in the method of revision should be allowed to drop; and referred to the unjustifiable treatment to which the publication of his views of the question had subjected him.

Mr. Sheppard, of Boston, spoke of the indebtedness of the Association to Dr. Squibb for the part he had taken in this question, and offered the following resolution:

Resolved, That while there is among the members of the American Pharmaceutical Association an honest difference of opinion as to the advisability of the plan suggested by Dr. Squibb, the thanks of the Association be and are hereby tendered to Dr. E. R. Squibb, of Brooklyn, N. Y., for his earnest efforts during the past two or three years to inaugurate an improvement in the plan of revision of the U. S. Pharmacopœia.

The annouucement, by the President, at this point in the proceedings, that an organ recital had been offered to the members of the Association in the Metropolitan Church, led to the departure of the ladies in a body, after which, Mr. Sheppard's motion, being seconded by Dr. Menninger, of Brooklyn, was unanimously adopted.

Dr. Squibb expressed, with much feeling, his thanks for the compliment paid him by the Association.

Dr. Hoffman, of New York, read a preamble, and offered the following resolution:

Resolved, That the President of this Association appoint a committee of five to take into consideration the advisability and feasibility on the part of the American Pharmaceutical Association, as the national representative organization of the profession of Pharmacy, to prepare a complete Pharmacopœia, which may be proposed to the final committee of revision, and may be submitted to the criticism of the medical and pharmaceutical professions; and that that committee be instructed to report early at the next session, so as to leave time for definite action at that meeting.

PROF. EBERT, of Chicago, seconded the resolution, which was then discussed by Messrs. Bullock, Menninger, Calder, and Shinn. The former objected to a reference which had been made in the preamble to the American Medical Association, in the nature of a censure. He held that the American Pharmaceutical Association had no right to censure that body, and that such action would lead to trouble.

The preamble was therefore amended so as to avoid this objection, and was in this shape, together with the resolution, unanimously adopted.

SALARY OF THE TREASURER.

MR. CH. L. EBERLE, of Philadelphia, of the Committee on the Treasurer's Report, reported favorably, and further recommended that his salary be increased by $100.

On motion of Mr. Menninger, and after some discussion, the report was adopted.

The practicability of increasing the funds of the Association, through abbreviation of the list of life membership, was suggested by Mr. Calder, and the question was referred to a special committee.

PAPERS.

G. F. H. MARKOE (Boston, Mass.): "The Essential Oil of *Myrcia* (*Pimenta*) *acris*, or Bay-Oil." The author has subjected 7,000 pounds of Myrcia leaves to distillation in a copper still of 200 gallons capacity, arranged for both wet and dry steam. 200–300 pounds of the leaves were treated at a time, which yielded in 12 hours 80-100 gallons of distillate. The product consists of a lighter portion, coming over very rapidly, of a spec. grav. from 0.807–0.990, and a heavier portion, coming over very slowly, ranging between 1023–1037. The oil is colorless first, but gets tinted and dark in time. The heavy oil, by slow distillation, yielded a number of portions of various specific gravities, being light-colored from 1025–1048, darker colored towards the end, when the specific gravity is reduced again to 1042, and finally a dark, nearly black portion, of 1035. By redistilling the light oil, some very light fractions were obtained, having a spec. grav. of 0.829 at 77° F., and 0.835 at 60° F., which is no doubt the peculiar terpene of the oil. The residue left in the still consists of a very small quantity of a black, molasses-like substance, which is no doubt the resin produced from the oil by oxidation, and imparting to it its color.

The paper was accepted and referred to the Committee on Publication.

12. P. W. BEDFORD (New York): "White Wax and its Adulterants." The author describes the mode of bleaching wax, which consists in melting the crude beeswax, letting it run in a fine stream upon a wheel revolving in water, whereby it is spun into thin ribbons, which are placed in the sun and sprinkled with water. This process is repeated several times, and after 24 to 72 hours the wax is cast in the form of cakes, which are exposed to sunlight in single layers under glass. Pure wax is never quite white, but has a yellowish creamy tint. Seventy-five per cent. of all the wax of commerce is adulterated, which is owing to the fact that the greater part of it is used for manufacturing purposes (artificial flowers and candles), where pure wax would be too brittle. The chief adulterants are paraffin, stearin, and ceresin; also Japan and China wax. The best tests of purity are: white wax has a cream color, is soluble in five parts of chloroform at 85° F., the solution becoming an emulsion on reduction of temperature. At 80–85° F. wax becomes plastic by kneading. When chewed it separates into laminæ. Pure wax cannot be smoothly moulded in metal moulds.

The paper was referred to the Committee on Publication.

PROF. REMINGTON, of Philadelphia, read a voluntary paper on "Hydrobromic Ether."

Owing to the fact that we have an article in the present number giving in part the information afforded by the author, we defer the publication of an abstract of this paper.

Regarding the Pharmacopœia question,

The PRESIDENT announced he had appointed the following gentlemen a committee to look into the matter and report at the afternoon session: M. L. M. Peixotto, N. Y.; J. P. Remington, Pa.; G. F. A. Markoe, Mass.; A. E. Ebert, Ill., and T. R. Baker, Va.

The Association then adjourned at 12.40 o'clock to meet again at 3 P.M.

AFTERNOON SESSION.

The chair was taken at 3 o'clock.

DR. MENNINGER moved "That the by-laws be amended so as to admit of the increase of the Treasurer's salary from $400 to $500."

The motion was carried unanimously.

VOLUNTEER PAPERS AND ANSWERS TO QUERIES.

The PRESIDENT read a paper on the properties and composition of Cologne water, in the course of which he recommended the following formula as a good substitute for Farina's article—

Oil of Neroli, 5 dr. and 20 ♏.
Bergamot, 1 oz.
Rosemary, 1 dr. and 20 ♏.
Extract Jasmine, 1 oz.
Pure alcohol, 2 pints.
Water, 2 pints.

Mix and filter through a little magnesia, if necessary.

In commenting upon this paper, Dr. E. R. Squibb remarked that acetic ether should always be added to cologne, as it thereby becomes much more grateful to the sick. Dr. Menninger recommended the addition of 1 fl. oz. of acet. ether to the gallon of cologne.

DR. PILE (Philadelphia), read a volunteer paper on "Dialyzed Iron," in the course of which he recommends to use a cold saturated solution of sodium carbonate in place of water of ammonia, to precipitate the ferric chloride. The addition of the sodium carbonate solution is continued until, after shaking, a small quantity of the precipitated ferric carbonate remains undissolved. The liquid, after dialyzing for 24 hours, had a spec. gr. of 1055; after 8 days it had increased greatly in bulk, owing to the upward endosmis of water, and had a spec. gr. of 1029.

MR. F. B. POWER (Strassburg, Germany), contributed a paper "On the Constituents of Resin of Podophyllum," which was read, in the absence of the author, by the Permanent Secretary, From this lengthy and valuable paper we shall for the present only quote the main results, which appear to have been arrived at after exhaustive study of the subject. The author found in the rhizome a small quantity of a volatile fatty acid, which is probably myristic acid, to which the odor of may-apple root is due. It contains no tannin; the coloration which ferric chloride produces being due to the peculiar resin. The rhizome *contains no berberina*, and the coloring matter is due to the resin itself. Protocatechuic acid is obtained from it, and probably exists in it ready formed, which would be the first instance known. The active portion of the resin is almost entirely soluble in hot water.

MISCELLANEOUS BUSINESS.

PROFESSOR BEDFORD, of New York, tendered the resignation of the Committee on the Pharmacopœia, which had been unable to accomplish much during the past year.

MR. RICE moved that the resignation be accepted, and that the committee be thanked for past labors. Carried.

The report of the committee appointed at the morning session was then read. It recommended that the work of compiling a preliminary Pharmacopœia be assigned to a special committee of fifteen.

The report was adopted, the selection of the members of the committee being left to the President.

The **President** named the following gentlemen as the committee on the proposed alterations of the by-laws: Charles L. Eberle, Philadelphia; Edmund Gregory, Lindsay, Ont.; W. H. Rogers, Middleton, N. Y.; Chas. A. Tufts, Dover, N. H.; Prof. J. M. Maisch, Philadelphia.

At 6.45 P.M. the meeting adjourned until Friday morning.

Fourth Day of the Meeting.

Vice-President Ingalls called the meeting to order yesterday at 9.10 A.M. The minutes of the present session were confirmed.

Henry S. Wellcome (New York) read a paper on "Bromine Production in the United States."

Mr. Shinn (Philadelphia), on behalf of Dr. Miller, submitted specimens of paraffin paper, which he said would be found a good substitute for wax paper, tin foil, etc., in wrapping up drugs of an oily nature.

Professor G. F. H. Markoe (Boston) then made a verbal report, in answer to a query proposed last year on: "Microscopes suitable for the Pharmacist." Professor Markoe exhibited one of Zentmayr's Histological Microscopes, which embraces not only all the most desirable features of the more elaborate instruments, but likewise some entirely new improvements, among them a reflecting mirror revolvable around the stage, for illuminating transparent as well as opaque objects, which make it the most suitable and cheapest microscope for pharmacists and physicians. Price, $30.00, without objectives.

59. G. F. H. **Markoe** (Boston, Mass.): "Can the Alcoholic Extract of Scammony be substituted for the Resin of the U. S. P." The author states that the product obtained by exhausting scammony with hot or cold alcohol is only about 2 per cent. in excess of that obtained by the officinal process, and that this extract may be regarded, for all purposes, to be identical with the officinal resin.

President Saunders read a voluntary paper on the quality of cream of tartar supplied to the people of Ontario. He had examined several samples obtained in London, Ont., and found them to be largely adulterated, and extensively purchased by the local dealers in Toronto.

Mr. Saunders then took the chair and named the following gentlemen as a committee on the Pharmacopœia: Charles Rice, Dr. F. Hoffman, P. W. Bedford, New York; Prof. J. M. Maisch, Prof. J. P. Remington, Charles Bullock, Philadelphia; G. F. H. Markoe, S. A. D. Sheppard, Boston; John F. Hancock, Baltimore; A. E. Ebert, Chicago; C. Lewis Diehl, Louisville; E. S. Wayne, Cincinnati; W. H. Crawford, St. Louis; Charles Mohr, Mobile, Ala.; Emlen Painter, San Francisco.

On motion of Dr. **Hoffman**, the name of the President was added to the Committee.

Mr. Sheppard moved that the sum of $50 be placed at the disposal of the Committee. Carried.

The report of the Exhibition Committee was read by the Secretary, and adopted.

Mr. Henry S. Wellcome, New York, thought that the annual exhibitions of the Association only served as advertising mediums to the firms who exhibited, and did not benefit the members. He moved that they be discontinued.

The **Secretary**, in amendment, moved that the matter be referred to the Executive Committee, with instructions to report thereon next year.

Mr. Kennedy seconded the amendment, which was carried.

Answers to questions were continued as follows:

Benj. T. Fairchild (New York) sent a lengthy paper in answer to the query, "What knowledge of therapeutics should the properly educated pharmacist possess?" which was of considerable interest, but could hardly be given in brief.

The **Secretary** read a letter from the Secretary of the Toronto Mechanics' Institute, placing the privileges of the reading-room at the disposal of the members of the Association during their stay in the city. The letter was received, with thanks.

Dr. Menninger, of Brooklyn, moved the following resolution:

Resolved, That the thanks of the Association be and are hereby tendered to the Department of Education of the Province of Ontario, to the officers and members of the Ontario College of Pharmacy, and their ladies, and to the citizens of Toronto, for their uniform kindness and hospitable attention to the members of this Association during their stay in Toronto; Resolved, also, that the thanks of this Association be tendered to the City Government of Toronto for the use of the City Chamber during our sessions.

The motion was carried.

Prof. A. E. **Ebert**, of Chicago, made the following motion:

Resolved, That the thanks of this Association are due and are hereby tendered to the press of Toronto for their faithful and complete reports which have been published of the proceedings from day to day.

Carried.

Mr. E. P. Nichols presented a report of the Committee on Queries and Papers, which was adopted.

Eleven new members and four honorary members were proposed and elected. [See list on page 275.]

Mr. J. D. Rankins, of Atlanta, Ga., was elected local secretary for the current year.

A vote of thanks was unanimously passed to the retiring local secretary, Mr. Henry J. Rose, of Toronto, who briefly responded.

Toasts and speeches followed for a short time, and the business of the meeting having thus been concluded, the Association adjourned to meet in Atlanta, Ga., on the first Tuesday of September, 1878.

List of Queries Accepted for Investigation by the Members whose Names are Added in Brackets.

1. In view of the remedial properties accorded to coca-leaf—Erythroxylon Coca, what pharmaceutical preparation can be made, having its properties in the most desirable form? (G. W. Kennedy, Pottsville, Pa.)

2. What is the therapeutic value of dialyzed iron as an antidote for arsenious acid as compared with the hydrated ferric oxide? (Ad. Tscheppe, New York, N. Y.)

3. Would the substitution of citrate of sodium for citrate of ammonium in the officinal pyrophosphate of iron make the latter less liable to become insoluble on keeping? (G. F. H. Markoe, Boston, Mass.)

4. What is the comparative therapeutic value of ergot grown in the United States and Europe? (G. Zellhoefer, New York, N. Y.)

5. Ergot contains a large quantity of fixed oil, which sometimes interferes with percolation, and which the British Pharmacopœia removes by ether. May petroleum benzin be used for the same purpose and without injuring the medicinal properties of ergot? What quality of benzin (spec. grav., boiling-point, etc.,) is best adapted for the purpose, and may the fixed oil be used either in medicine or the arts? (P. W. Bedford, New York, N. Y.)

6. Damiana.—An essay in regard to its medicinal value and active constituents, including its history and botanical source. (H. J. Menninger, Brooklyn, N. Y.)

7. Are there any drugs now successfully cultivated here which were formerly obtained from foreign countries? (H. S. Wellcome, New York, N. Y.)

8. Compound resin cerate alters in consistence upon keeping. How can this be prevented? (S. A. D. Sheppard, Boston, Mass.)

9. Confectioners frequently use deleterious substances for coloring candies. How can harmless colors, suitable for their use, be made? (Referred to S. P. Sharples, Boston, Mass.)

10. Tinctures.—Experiments and suggestions in regard

to proportion of drug and strength of alcohol necessary for extraction and preservation. (Referred to Jac. Jesson, Pentwater, Mich.)

11. On the condition of the mercurial constituent in the several pulverulent preparations as recommended to be prepared with sugar of milk. (See Amer. Jour. Phar., 1876, p. 267). (P. W. Bedford, New York, N. Y.)

12. To what extent do the pills of the U. S. P. supply the demand for ready-made pills? Are there any formulas which if introduced would add to the value of the list? (R. V. Mattison, Philadelphia.)

13. How do the commercial bismuth preparations compare with the requirements of the U. S. P. (A. Tscheppe, New York, N. Y.)

14. It is written of the berries of Benzoin odoriferum (spice-bush berry) that they yield nearly fifty per cent. of fixed oil, besides about five per cent. of agreeable volatile oil. Is this really so? The plant being very common in some parts of the United States, for what can its products be utilized? (A. W. Miller, Philadelphia, Pa.)

15. There is a counter-irritant or revulsive plaster spread upon linen or cotton-cloth purporting to be made in Paris, France, under the name of "Emplastrum Thapsiæ." As this has decided therapeutic value, what is its composition, and can it be advantageously prepared and kept for extemporaneous use? (H. P. Tarrant, Augusta, Ga.)

16. What advantage, if any, would result from the removal of fixed oil from colchicum seed preparatory to the preparation of the fluid extract? (E. L. Boerner, Iowa City, Iowa.)

17. Extractum Glycyrrhizæ fluidum.—Should the alcoholic strength of the preparation be reduced, or what other changes are desirable in the formula to increase its adaptability for masking the taste of unpleasant medicines under varied circumstances? (J. P. Remington, Philadelphia, Pa.)

18. Can any improvement be suggested in the formula of the Pharmacopœia for fluid extract of wild cherry—keeping its object in view to represent chiefly the astringent and tonic virtues combined with as much hydrocyanic acid and volatile oil as may be obtained by percolation? (J. T. Shinn, Philadelphia, Pa.)

19. Solvents for wax, paraffin, stearin, and ceresin. Tests for the adulteration of wax. (P. W. Bedford, New York, N. Y.)

20. Galbanum is extensively adulterated. What are the adulterants? (A. E. Ebert, Chicago, Ill.)

21. Can salicin be economically made in North America, and by what process? (E. Gregory, Lindsay, Ont.)

22. Can grape sugar or glucose be substituted for cane sugar, honey, or glycerin, in pharmaceutical preparations? Give a practical essay on the subject. (E. H. Sargent.)

23. An essay on the conditions necessary to successfully conduct percolation. (J. U. Lloyd, Cincinnati, O.)

24. How can the salts of berberina be most easily prepared from Hydrastis Canadensis root? What will be the practical yield? And what are the solubilities of the different salts? (J. U. Lloyd, Cincinnati, O.)

25. Resin of Podophyllum is found upon the market in color ranging from light brown to deep yellow. Can these various shades be obtained from may-apple without the use of foreign substances. (J. U. Lloyd, Cincinnati, O.)

26. How do Rio and East India tapioca compare in dietetic value? (W. J. Jenks, Philadelphia, Pa.)

27. Give a formula for a concentrated liquid extract of lactucarium, from which the syrup, tincture, and other preparations can be made. (Jos. L. Lamberger, Lebanon, Pa.)

28. What is oil of cedar of commerce? Where and from what plant or plants is it made, and what is it used for? (J. H. Stein, Reading, Pa.)

29. Give a report on the brands of white wax in the market. (—.)

THE EXHIBITION OF DRUGS AND CHEMICALS.

This was held at Temperance Hall, very nicely adapted in size for the purpose, but unfortunately situated at some distance from the City Hall, where the meetings were held, and somewhat inconvenient for the members of the Association to visit, unless considerable time was devoted to it. Consequently, hardly as much time was given to it as its merits deserved. The cordial and energetic efforts of the gentlemen who had it in charge did much, however, to make it the success it really proved to be.

The following list enumerates briefly the firms represented and the nature of their wares:

E. SHEFFER (Louisville, Ky.): Saccharated pepsin.

HENRY TROEMMER (Philadelphia): Prescription scales, 12 samples of the usual merit.

WM. R. WARNER & CO. (Philadelphia): Sugar-coated and compressed pills, fluid extracts, and syrups, 250 samples in all; also sample of their new patent shop-bottle.

WILLIAM SAUNDERS (London, Ont.): Fluid extracts, fine and very complete line of 125 samples.

WHITALL, TATUM & CO. (Philadelphia): Green and flint glass-ware and druggists' sundries, 150 samples.

POWERS & WEIGHTMAN (Philadelphia): Drugs and chemicals. A large display, covering a table six by thirty feet, and consisting of a complete line of chemicals manufactured by this firm, noticeable among which were sulphate of zinc and sulphate of morphia, of each about 300 ounces; a sample of codeia, valued at over $500; nitrate of silver, 400 ounces; a full line of scale preparations of iron, which by their brilliant sparkle added largely to the beauty of the display. From a handsome alum base rose a pyramid of bottles containing many fine and rare chemicals, including nearly every known salt of quinine and a full assortment of mercurial preparations. Also interesting specimens of East India barks, nine varieties of crude argols, etc., the whole elegantly arranged in fine cut-glass bottles and under glass shades in three large pyramids. Mr. H. P. Cook, representing.

W. MILLICHAMP (Toronto, Ont.): Show-cases, 3 samples.

MELLOR & RITTENHOUSE (Philadelphia): Licorice, in sticks and lozenges.

F. ALFRED REICHARDT (New York): Damiana, tannate of quinia lozenges, and the other preparations for which this house is well-known.

B. O. & G. C. WILSON (Boston, Mass.): Roots, herbs, and leaves, pressed and loose, 75 samples—a magnificent display in one large case. Many newly introduced articles, amongst which were sea-wrack (*Fucus vesiculosus*), coca leaves, jaborandi, and others. The whole attracting the attention they deserved as being exceedingly handsome. Care in selecting, the cleanliness in putting up, and retention of color and strength, mark the superiority of the productions of this house. Mr. G. L. Wilson, representing.

H. K. & F. B. THURBER (New York): Pure wine manufactured in the vineyard of Dr. Underhill, at Croton Point, on the Hudson River.

VON BUIST & CO. (New Albany, Ind.): Soap-cutter—a simple and ingenious apparatus for the use of retail druggists. $3.50 each.

FRED. HOFFMAN (New York): Hager & Messter's Pharmaceutical microscopes. (See NEW REMEDIES, Vol. V. page 369.)

TIEMANN & CO. (New York): Hypodermic syringes.

W. H. SCHIEFFELIN & CO. (New York): Soluble coated pills, a full and very satisfactory exhibit of this branch of their manufacture, the ready solubility, quality of material, accuracy of division, and general integrity of preparation, recommending their goods especially.

EDWARD A. SAYRE (Brooklyn): Wafer-press and spring sliding-doors for show-cases. A very satisfactory mode of economizing space behind the counter.

J. C. ALLAN & CO. (Buffalo, N. Y.): Soluble medicated bougies.

LAZELL, MARSH & GARDINER (New York): Powdered and fluid extracts, chemicals, handkerchief perfumes, pepsine, and pancreatine. An attractive display of very fine goods, over which our friend, Professor P. W. Bedford, presided.

JOHN WYETH & BROTHER (Philadelphia), exhibited a full line of their compressed tablets, embracing a large variety of formulas, officinal and otherwise.

McKesson & Robbins (New York), exhibited a full line of fine chemicals, select crude drugs, essential oils, and various pharmaceutical preparations, including their gelatine pills and granules, pepsin, pancreatin, ergotin, fluid extracts, bulk handkerchief extracts. Among the chemicals were quinia and strychnia, which they are now manufacturing. Also pilocarpine, and many other rare alkaloids and principles. The crude drugs exhibited included fine samples of jaborandi, coca leaves, xanthium spinosum, fucus vesiculosus, and others. The gold medals shown indicated the success of previous and competitive exhibitions. This very handsome display reflected great credit on the taste of their representative, Mr. Henry S. Wellcome.

Seabury & Johnson (New York): Medicated plasters. This house showed a complete assortment of their goods, put up and arranged with the taste characteristic of their manufacture. Among new and important additions to their list are: surgeon's rubber adhesive plaster, especially adapted for immediate use, heat or moisture not being required; camphorated blister plaster, new belladonna plaster, surgeon's isinglass plaster on muslin and silk, and a very fine article of spice plaster more delicate than mustard, and, being spread on long muslin slips, very well adapted for many cases where more serious irritation is not required.

Gates Brothers (Saratoga Springs, N. Y.): Samples of fourteen different mineral waters.

ANALYSES OF PHARMACEUTICAL CHEMICALS AND PREPARATIONS.

◆

We are now prepared to send samples for the November prize to such as may desire to compete for it. Answers must be received before the 20th of October, and be accompanied by a sealed envelope containing the name of the writer, and designated by a device or motto, which is also to be placed, instead of the writer's name, upon the report of the analysis.

Persons to whom a prize has been awarded are requested to send to the publishers the title of any book or books they may desire, not exceeding in the aggregate the value of $10.00.

◆

The third sample contained calomel (Hg_2Cl_2) ninety-seven per cent., common salt ($NaCl$) two per cent., and corrosive sublimate ($HgCl_2$) one per cent.

The importance of calomel as a medicine, and the fact that it is again being much used, render it necessary that all pharmacists should understand the best methods of detecting any impurities it may contain. In the announcement, last month, it was stated that the sample was not adulterated, but contained impurities liable to be present from carelessness in manufacture. Let us see, by reference to the U. S. P., what these impurities may be. By turning to "Hydrargyri Chloridum Corrosivum," and to "Hydrargyri Chloridum Mite," we see that both processes are essentially the same, except that the "Mild Chloride" contains twice as much metallic mercury as does the "Corrosive Chloride." If now, by carelessness, the amount of mercury be too small, or the amount of salt too large, some "Corrosive Chloride" will be formed. This is a very dangerous impurity, and the pharmacopœia directs that it be removed by water-washing. If this part of the process is slighted, *as too often it is*, some of the poisonous mercuric chloride will remain.

But calomel is often made by precipitating an acid solution of mercurous nitrate ($Hg_2(NO_3)$) by saturated solution of common salt.

Here there is danger of forming mercuric salt, as the free nitric acid necessary to hold in solution the mercurous nitrate will partially change calomel to corrosive sublimate. Unless the precipitated calomel is well washed it will contain also some common salt, the presence of which is not as void of danger as might at first sight appear. By reference to the article of Mr. Corwin, in the July New Remedies,[*] it will be seen that cold solution of sodic chloride does form some mercuric salt from calomel. *How much* mercuric salt would be formed under varying conditions we are not certain; it is enough that *any may* be formed.

Having thus ascertained what impurities to look for, it is comparatively easy to identify them. To about fifty grains of the calomel add one fluid ounce of *cold*[†] *distilled* water, and digest five or ten minutes, shaking frequently. Filter. Divide the filtrate into two unequal portions. The smaller portion is tested with nitrate of silver for hydrochloric acid. If found, the calomel contained either corrosive sublimate or salt.

To the larger portion of the filtrate add ten drops of hydrochloric acid, and then treat with hydrosulphuric acid gas. If mercuric salt is present, a precipitate of mercuric sulphide (HgS) will appear, first white, then orange, brown, and black. This precipitate, unlike other "second group" precipitates, is insoluble in nitric acid, but it is easily soluble in hot nitro-hydrochloric acid.

Sometimes a slight colored residue of *sulphur* remains on the filter undissolved; this may be disregarded. The solution of mercuric chloride thus formed must be evaporated carefully to dryness to remove excess of chlorine, which interferes with some of the tests. The residue may now be dissolved in water and tested with ammonic hydrate, stannous chloride, potassic iodide, etc.

The filtrate, after removal of the mercuric sulphide, is evaporated to dryness, and tested by flame reactions for sodium, etc. Of course it is best to test for "third" and "fourth group" bases, but they are seldom present.

The U. S. P. tests for calomel are good; ammonia gives with mercuric chloride "white precipitate," or "ammoniated mercury" (NH_2HgCl); lime water and potassic hydrate precipitate from mercuric salts the yellowish red mercuric oxide. Nitrate of silver serves to detect hydrochloric acid, whether present as mercuric or sodic salt.

Calomel itself is easily identified. It is almost entirely insoluble in water, alcohol, and ether. It slowly dissolves in hydrochloric acid, and in solutions of various salts with partial change to mercuric salt. Nitric acid dissolves it rather better, forming mercuric chloride and mercuric nitrate. Nitro-hydrochloric acid is its best solvent, and quickly changes it to mercuric chloride. The most distinctive reaction for calomel is obtained by treating calomel with ammonia; if it turns instantly black, little doubt need be entertained as to its nature. The product is "chloride of di-mercurous-ammonium" (Hg_2Hg_2Cl). Potassic hydrate changes calomel to black mercurous oxide (Hg_2O). Mercurous and mercuric salts are both volatile when heated, and yield characteristic sublimates. If heated in closed tubes with carbonate of sodium or charcoal dust, they yield a gray sublimate of metallic mercury. For other reactions, see text-books. Enough has been said so that any student may identify calomel and its common impurities; it now devolves upon him to carefully test every new lot he buys, that he may be sure not to sell any that contains dangerous impurities.

The prize for the best analysis has been awarded to Mr. H. F. Meier, of Detroit—"*Ann Eliza.*"

The sample for the October analysis belongs to the preparations of the U. S. P.

State whether in your opinion it contains adulterations or impurities.

We are also now prepared to forward to applicants the November sample, which is chosen from the U. S. P. Primary Materia Medica list, and contains a common adulterant.

ANSWERS TO STUDENTS.

"*Ann Eliza.*"—Your analysis was excellent, but you ought to test your *filter-paper*, and see if you do not find in *it* traces of iron, calcium, and sulphuric acid.

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[*] "The Action of Certain Manipulations and Reagents on Calomel."

[†] *Boiling* water, as directed by the U. S. P., will form some mercuric salt. See paper of Mr. Corwin.

"*Orbiculite.*"—Alkaline impurities are likely to be overlooked. Try again; your work was correct as far as you went.

"*Junior.*"—Ether will remove mercuric chloride from calomel, but not sodic chloride. Water is cheaper and better.

"*Draco Mitigatus.*"—See reply to "Orbiculite." It is better to write ammonic hydrate NH_4HO rather than AmHO.

"*Sub.*"—Your analysis received and will be considered next month.

NOTES, QUERIES AND ANSWERS.

[*Under this heading we shall, to the best of our ability, endeavor to answer such questions addressed to us as come within the scope of this journal, provided they are accompanied by the name and address of the writer. Answers to queries received after the 5th of the month will lie over until the next issue.*]

◆

Chloral Hydrate. (A. R., Trenton, N. J.)—You should only buy *crystallized* chloral hydrate. Several cases have been reported lately, in which alarming symptoms were produced by the administration of the ordinary chloral hydrate in lumps, the purity of which cannot be relied on, and which is generally more feeble in its action, but at the same time more irritating.

Protein. (J. H. W., New Orleans, La.)—This is a generic term for a number of nitrogenous bodies occurring in the animal and vegetable kingdom, which have a tolerably uniform ultimate composition, containing 52.7–54.5% carbon, 6.9–7.3% hydrogen, 14.4–16.5% nitrogen, 20.9–23.5% oxygen, and 0.8–2.0% sulphur. That which is usually sold in the market under this name is prepared as follows: White of egg is beaten to a foam (the object of this is to break up the fine membranous cells in which the albumen is contained), which is set aside for one day, then strained and the strained liquid mixed with moderately strong nitric acid, as long as coagulation takes place. The coagulum is collected upon a *linen* strainer, mixed and washed with water, then kneaded and washed with diluted hydrochloric acid (1% of acid), dissolved in caustic soda or potassa, and from this solution precipitated by acetic acid. The precipitate is transferred to a strainer, washed, dried in a lukewarm place, rubbed to powder, and preserved in well-closed flasks. It forms a yellowish, tasteless, and odorless powder.

Battley's Sedative. (J. B., Terre Haute, Ind.)—Battley's sedative solution of opium, or *liquor opii sedativus*, is a nostrum which has been extensively used for many years. Its composition and mode of preparation have not been made public, but it is believed to be made by evaporating a cold aqueous solution of opium at a low temperature, redissolving the residue in distilled water, and again evaporating; then diluting the extract thus formed with water. The strength of the liquor is made about equal to that of laudanum, or perhaps a little stronger. Some formularies give the following:

Extract of opium, aqueous	3 troy oz.
Distilled water, boiling	30 fl. oz.
Alcohol	6 fl. oz.
Cold water, sufficient to make	40 fl. oz.

Dissolve the extract in the hot water; when cold, add the alcohol and enough cold water to make it measure 40 fl. oz., and filter. Dose, 10 to 30 drops.

Cod-Liver Oil and Phosphate of Lime. (M. S., Albany, N. Y.)—All mixtures of cod-liver oil with phosphate of lime are mechanical, and will separate at some time or other, any assertion to the contrary notwithstanding. We have also made a number of experiments, and find that freshly-precipitated calcium phosphate, made by double decomposition from calcium chloride and sodium phosphate, in presence of a little ammonia soap, will form a tolerably stable mixture with cod-liver oil, by the aid of "glyconine." We can recommend the following:

Calcium phosphate	512 grs.
Ammonia, water of, Hydrochloric acid,	q. s.
Cod-liver oil	10 fl. oz.
Glyconine	14 fl. drchs.

Dissolve the calcium phosphate, mixed with a quart of water, by means of the hydrochloric acid, and precipitate it with ammonia. Transfer it to a linen strainer, and allow it to drain, but do not wash it more than once. If you employ directly the precipitate from calcium chloride and sodium phosphate, you will succeed even better than when employing the re-precipitated phosphate. The proportions theoretically required are:

$Na_2HPO_4, 12H_2O$ + $CaCl_2, 6H_2O$ =
Cryst Sodium Phosphate + Cryst. Calcium Chloride =
358 + 219
=$CaHPO_4, 12H_2O$ + 2NaCl + $6H_2O$
=Calcium Phosphate + Sodium Chloride + Water
352 + 117 + 108

but it has been found that a uniform salt is more certainly obtained by employing a great excess of calcium chloride. The actual proportions, therefore, to prepare the 512 grains of calcium phosphate required are: 520 grains of cryst. sodium phosphate and 638 grains (double quantity), of cryst. calcium chloride. As soon as the calcium phosphate has drained, mix it with water to measure 3½ fl. oz., add to it 2 fl. drachms of water of ammonia (and 2 fl. drachms of a flavoring essence, if desired), and 14 fl. drachms of glyconine. Then add the cod-liver oil in portions, shaking after each addition, until the emulsion is complete. The main point is, to employ the calcium phosphate in a pulpy state, before it has shown signs of granulation or crystallization, and to have some free ammonia present, to form a small quantity of ammonia soap.

Chlorodyne. (J. B., Terre Haute, Ind.)—The same introduction might apply to this as we gave in the case of Battley's sedative. The composition is not exactly known, but the following formula has been devised as a good substitute, and adopted by the Am. Pharm. Association (see *Proceed.*, Vol. 22, p. 338):

Purified chloroform	4 fl. oz.
Stronger ether	1 "
Stronger alcohol	4 "
Molasses	4 "
Extract of liquorice, powd	2½ troy oz.
Morphia hydrochlorate	8 grains.
Oil of peppermint	16 minims.
Syrup	17½ fl. oz.
Hydrocyanic acid, 2%, U. S. Ph	2 "

Dissolve the morphia and oil of peppermint in the alcohol; mix the chloroform and ether with this solution. Mix the liquorice with the syrup and the molasses. Shake these two mixtures well together, and lastly add the hydrocyanic acid, and again shake well.

Dose: 5 to 10 minims, or 10 to 20 drops. Shake the vial well before pouring out a dose.

Warburg's Tincture. (Same)—The formula of this was published in our January number for 1876. It is too long to be reproduced here.

Amber Lac. (F. U. W., Glen Cove, L. I.)—Those qualities of amber which are unfit for being worked up into ornamental articles are used for preparing *oil of amber* (oleum succini), *succinic acid*, and *amber varnish*. The succinic acid is prepared by heating amber in retorts to 280°, when the acid and volatile oil are carried into the receiver, forming a brown acid liquid covered by an oily layer. *Amber resin* remains in the retort. The acid and oil have to be purified before being fit for use. The brownish black resin, which is left as a residue, is insoluble in ethereal and in fixed oils, but may be made into a dark-colored varnish by melting it, under exclusion of air, over a slow fire, with an equal weight of pure linseed oil, and diluting the mass, after cooling, with sufficient oil of turpentine, to give it the proper consistence. This forms the ordinary amber-varnish. Amber-lac, which is a clear, limpid, pale straw-colored liquid, is prepared in precisely the same manner—only, instead of amber-resin, clear, fine pieces of virgin amber are employed. Amber-varnish for photographers is prepared by covering 1 part of powdered amber, in a bottle, with 8 parts of chloroform, shaking frequently, and filtering after 24 hours. This varnish, which is applied cold, dries rapidly, and becomes so vitreous and transparent that it can hardly be distinguished from the glass. In the city of Elbing, not far from the shores of the Baltic, 45 miles W.S.W. of Dantzic, not less than 60,000 pounds of amber are worked up annually into varnish alone.

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THIS work is so miscellaneous in its character that we can do little better than first give an idea of its contents. It gives, as an introduction, the Hippocratic oath. Then follow forty pages devoted to general information for the practitioner, including tables of weights and measures, an alphabetical list of medicines, with their degrees of solubility in water, alcohol, ether, glycerine, etc.; list of abbreviations, etc. Nearly 200 pages are next given to therapeutic and practical hints, and embrace rules for diagnosis, posological tables, baths, pharmacopœial groups of medicines, very complete tables of incompatibilities, rules for prescribers, obstetric memoranda, directions for urinary analysis, poisons and their antidotes, resuscitation of asphyxiated persons, disinfectants and their uses, etc. The next section, of forty pages, contains dietetic rules and precepts, and complete directions for conducting post-mortem examinations finish the work.

A great deal of pains has evidently been taken to collate items of information which every physician is presumed to know about, but which very few persons could possibly retain in their memory, and there is no doubt that the work will be a very valuable one, in one way or another, for any person who may have the good fortune to possess it.

AN INDEX OF DISEASES AND THEIR TREATMENT. By THOMAS HAWKES TANNER, M.D., F.L.S. Second edition, revised by W. H. BROADBENT, M.D., etc. Philadelphia: Lindsay & Blakiston, 1877. 8vo, pp. 432. Price, $3.00.

THIS, like the preceding, has been issued as a ready help in the daily work of a busy physician, but varies considerably in its scope, as indicated in the title. Nearly half the work is occupied with the index of formulæ and the sections relating to climate and mineral waters. All the writings of Dr. Tanner are remarkable for their eminently practical character, and this one exemplifies the trait in a remarkable degree. It would have been well, perhaps, if the work had undergone revision by an American editor before being republished here, so as to eliminate or direct attention to instances where the formulæ of the British Pharmacopœia differ from our own, and to modify the section on climate and mineral waters so as to adapt them better to our wants on this side of the Atlantic. These last named features do not appear, however, to be an objection of much importance, since the work is in active demand.

THE ANNUAL ANNOUNCEMENT of the Department of Medicine and Surgery of the University of Michigan for 1877 and 1878.

"BY the advice of the Faculty, the provision of the Legislature, and the action of the Board of Regents, the course of instruction commencing October, 1877, will be extended to *nine* months, instead of six months, as formerly," due allowance being made for students already matriculated. The announcement of this next session contains many features which distinguish its course from those of other schools in this country. With the Harvard University and the University of Pennsylvania, it is at the advance in medical education, and we cordially recommend those who contemplate the study of medicine to send for a prospectus to the "Dean of the Medical Faculty, Ann Arbor, Mich.," before coming to the definite choice of a school.

THE AMERICAN MEDICAL ASSOCIATION AND THE UNITED STATES PHARMACOPŒIA: A Reprint of the Pamphlets of Dr. H. C. Wood, Mr. Alfred B. Taylor, The Philadelphia County Medical Society, and the National College of Pharmacy; with a Rejoinder addressed to the Professions of Medicine and Pharmacy of the United States. By EDWARD SQUIBB, M.D., of Brooklyn. Privately published, 8vo, pp. 157.

THE opponents of Dr. Squibb can certainly not deny that he is a generous foe, nor complain that their arguments are garbled. The pamphlet opens with an introductory of four pages reviewing the question at issue. Any one who reads it will be likely to acquire an interest in the well written manifestoes that follow. The "rejoinder" referred to was the report which the American Medical Association appointed Dr. Squibb to prepare, and then, at its session in June, concluded not to hear. As reference was made at the time of the meeting to the speeches of Drs. Wood and N. S. Davis, and but brief reports were given of their tenor, we may, perhaps, be excused for quoting here Dr. Squibb's version of the remarks made by the latter, as indicating the impression made by that august body—the American Medical Association—upon such men as the writer:

"The main point of Dr. Davis' brief address seemed to be that the Association should take up no subject like this which threatened to disturb the harmony of its action by the introduction of elements of discord, involving money values and entangling alliances. The Association was of a rather social character, and met for the discussion of scientific subjects, from year to year, in a friendly, pleasant way that was incompatible with such subjects as this, except so far as to see that somebody else attended to them properly."

The pamphlet concludes with the opinion of legal counsel upon the question of property and copyright, which will be a refractory nut for our Philadelphia friends to crack, so we opine.

MEDICINAL PLANTS: being Descriptions, with Original Figures of the Principal Plants employed in Medicine, and an Account of their Properties and Uses. By ROBERT BENTLEY, F.L.S., etc., and HENRY TRIMEN, M.B., F.L.S., etc. $2.00 per part.

SINCE our notice in February of Parts 6 and 7 of this admirable work, we have received from Lindsay & Blakiston, of Philadelphia, the American publishers, Parts 8, 9, and 10. We have already expressed our satisfaction with the character of this publication, and will here add that, aside from the value of the illustrations, the text is fresh and comprehensive. There are few, if any, persons more conversant with the present state of our knowledge regarding Materia Medica than the authors of this series, and on its completion it will be one of the most complete available works of the sort.

The contents of these parts is as follows:

PART 8: *Althæa officinalis*, *Balsamodendron Opobalsamum*, *Exogonium Purga*, *Nicotiana Tabacum*, *Ricinus Communis*, *Pinus Larix*, *Canna edulis*.

PART 9: *Cisampelos Pareira*, *Podophyllum peltatum*, *Cistus Creticus*, *Geranium maculatum*, *Polygonum Bistorta*, *Myristica fragrans*, *Curcuma longa*, *Vanilla planifolia*.

PART 10: *Viola odorata*, *Cinnamodendron corticosum*, *Krameria triandra*, *Krameria Ixina*, *Toluifera Pereiræ*, *Tamarindus Indica*, *Valeriana officinalis*, *Hyoscyamus niger*.

NURSE AND PATIENT and CAMP-CURE. By S. Weir Mitchell, M.D. [Reprinted from Lippincott's Magazine.] Philadelphia: J. B. Lippincott & Co. 1870. 12mo, pp. 73.

NOTHING which the author of these papers chooses to write goes unread, and these articles have apparently met with such favor as to warrant their separate publication. The first one of the two is an earnest protest against the habit, only too common, of persons undertaking the care of nursing severe cases of illness in their own families without adequate knowledge of what is best to be done, of the risks they run, or of the needs of the patients. The second relates to the value of residence in woods and among unfrequented lakes, streams, and mountains (or in some degree a return to barbarism), to those whose life in cities during the greater part of the year subjects them to the exhaustion of nervous and other functions. It is quite evident that the author has written *con amore*, for his word-pictures of wood life and scenes on the shores of the great lakes go beyond what is required in the presentation of mere therapeutical measures.

CORPULENCE: TREATED WITHOUT STARVATION; OR, HOW TO GET LEAN. By M. M. GRIFFITH, M.D. Parsons, Luzerne Co., Pa. (second edition): 1877. Sq. 12mo, pp. 79. Price, 50 cents.

A COMPILATION of the information relating to obesity to be found scattered through medical literature, prefaced by the physiology of nutrition, and followed by directions for the management of cases of excessive fatness. The author having himself been a subject of this complaint, takes a strong personal interest in the subject, and, therefore, gives us a very valuable and useful little work. *Fucus vesiculosus* (bladder-wrack) is recommended as a remedy in this condition.

LECTURES AND ESSAYS. By VIRGIL W. BLANCHARD, M.D. Published by the Blanchard Food-Cure Co., 27 Union Square, N. Y.

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PRESCRIPTIONS AND FORMULÆ.

Standard Formulæ for Certain New Preparations.

(Continued from page 254.)

48. *Alcoholic Extract of Podophyllum*, improperly called *Podophyllin.*

The leaves and stems of the May-apple, *Podophyllum peltatum*, are used, in powder, in doses of 0.25–0.60 gm. (4 to 10 grains). Alcohol of 90 per cent. extracts from them a resinous matter of a yellowish green color, which has been improperly named podophyllin. To obtain it pure, the alcoholic tincture is precipitated by water. [The water should be acidulated with hydrochloric acid in order to throw down, with the resin, the hydrochlorate of berberina; otherwise the product is of a blackish brown color.—See, however, Power's paper, page 278.

49. *Solution of Potassium Silicate* (for surgical purposes).

Potassium carbonate, purified, 78 degrees* of alkalimeter	36 gms.
White Fontainebleau sand, fine and dry.	63 "

The two substances are mixed and heated to a white heat in an elliptical reverberatory furnace for 4 hours. The resulting glass is transparent, very homogeneous, colorless, or at most only light amber colored.

To prepare the officinal solution of this salt, the glass is coarsely powdered and introduced, together with a quantity of water sufficient to produce a solution of the density 33–35° Baumé (spec. gr. 1294–1318), into an iron digester, capable of bearing a very high pressure. The water employed must be as pure as possible, and especially free from lime, to prevent the formation of calcium silicate, which would render the product turbid and opalescent. The potassium silicate is entirely dissolved, and the solution should have the above-indicated density.

50. *Quinia Ferrocyanhydrate (Ferrocyanide).* $(C_{20}H_{24}N_2O_2)_2H_4FeCy_6, 4H_2O=864$.

Quinia sulphate	4 parts.
Potassium ferrocyanide	1 part.

Agitate the quinia sulphate in a flask with enough distilled water to make a clear solution, when boiled; add to it the ferrocyanide of potassium in concentrated solution, boil the mixture for a few moments, and allow it to cool. Quinia ferrocyanide is deposited as a resinous mass. The mother-liquor, by concentration, yields a further quantity of the salt, and the whole product is purified by washing it once or twice with warm water.

The compound may be obtained in small crystals by repeatedly dissolving the amorphous product in boiling alcohol and allowing the solution to evaporate spontaneously. It forms a yellow salt, amorphous, or in small needle-shaped masses, scarcely soluble in water, but very soluble in alcohol, especially when hot. It effloresces in the air. Its solution must not be precipitated by barium chloride. Ignited in the air for a long time, it should leave a residue of ferric oxide free from any soluble salt of potassium.

51. *Basic Quinia Bromhydrate.* $C_{20}H_{24}\dot{N}_2O_2, HBr, H_2O=423$.

Quinia sulphate, basic	10	grms.
Barium bromide, dry	3.40	"
Distilled water	100	"

Mix the quinia sulphate with 80 gms. of water, boil, add the barium bromide dissolved in 20 gms. of water, filter, evaporate, and crystallize.

The salt forms white, silky tufts of needle-shaped crystals, is soluble in about 60 parts of cold water, very soluble in warm water, and must give no precipitate with soluble sulphates [absence of barium].

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* Of which 4.807 gms. saturate 78 c.c. of a diluted sulphuric acid, made by diluting 50 c.c. standard (volumetric) sulphuric acid with water to 100 c.c.

One gramme of the salt is entirely precipitated by 0.401 gm. of silver nitrate.

52. *Neutral Quinia Bromhydrate.* $C_{20}H_{24}N_2O_2$, 2HBr, $3H_2O=540$.

Quinia sulphate, basic	10 grammes.
Diluted sulphuric acid (1:10)......	11.2 cub. centim.
Barium bromide, dry	6.8 grammes.
Distilled water....................	75 "

Dissolve the quinia sulphate in 50 gms. of water with the aid of the dil. sulphuric acid, and the barium bromide in 25 gms. of water. Mix the two solutions, boil a few moments, and filter. The filtrate, evaporated to 35 grammes, and cooled, gives handsome prismatic crystals, soluble in 7 parts of cold water, very soluble in boiling water and in alcohol. It must give no precipitate with soluble sulphates [absence of barium].

One gramme of this salt is entirely precipitated by 0.629 gm. of silver nitrate.

53. *Quinia Tannate.* $C_{20}H_{24}N_2O_2(C_{27}H_{22}O_{17})_2=1560$.

Quinia acetate, in neutral solution, q. s. Add to this a solution of gallo-tannic acid (tannin from galls), deprived of resinous matters, in quantity sufficient to entirely redissolve the white mass of quinia tannate, which is first formed.

Neutralize this solution exactly with sodium bicarbonate, which precipitates, in proportion as the acidity of the solution lessens, all the quinia tannate. Collect the product on a filter, allow it to drain, and let it dry by exposure to the air. When dry, powder it, and wash it upon a filter with distilled water; then dry again.

Quinia tannate is amorphous, pulverulent, and white. When prepared from the sulphate it persistently retains a certain amount of sulphuric acid. Prepared as above, it contains 20.6 per cent. of quinia. 3.5 parts of quinia tannate contain as much quinia as 1 part of the sulphate.

54. *Alkaloidal Soaps.*

These compounds, which are almost insoluble in water, are generally prepared by double decomposition. An aqueous solution of medicinal soap, as neutral as possible, is mixed with a concentrated and neutral solution of the chlorhydrate (muriate) of the alkaloid, until the latter solution ceases to be precipitated or clouded by further addition of soap-solution. The precipitate is collected, washed, and dried with a gentle heat.

This mode of preparation is preferable to a direct union of the alkaloid and fatty acids, because the latter method yields a less definite product.

55. *Metallic Soaps.*

Metallic soaps (oleomargarates of metals) are obtained by double composition. A watery solution of a metallic salt is added to a neutral aqueous solution of medicinal soap, until no more precipitate is formed. This is collected on linen and strongly expressed.

Soluble metallic sulphates may be used to prepare a great number of these compounds (oleomargarates of iron, copper, zinc, etc.).

Mercury-soap is produced by employing the mercuric nitrate dissolved in a little water acidified with nitric acid, or mercuric acetate.

56. *Sodium Hypophosphite.* $NaH_2PO_2=88$.

Calcium hypophosphite	10 parts.
Sodium carbonate, cryst	16 "

Dissolve the two salts separately in lukewarm water, and mix the two solutions, taking care that there be finally no excess of either salt present. [The clear filtrate must not give a precipitate with ammonium oxalate—absence of lime; and must not effervesce on addition of hydrochloric acid—absence of a carbonate]. Filter from the precipitated calcium carbonate, wash the latter, and add the washings to the filtrate. Concentrate these on a water-bath at a temperature of 60° C. (140° F.) to avoid explosion. The dry residue must be preserved in tight vessels.

Sodium hypophosphite is a white, amorphous, or crystalline salt, deliquescent, soluble in 2 parts of water and in 15 parts of 90 per cent. alcohol. It possesses the characteristics of the hypophosphites and of sodium salts. It must not effervesce with acids, nor be precipitated by barium chloride, or by sulphates. Oxalic acid produces no cloudiness in its solution.

57. *Sodium Lactate.* $NaC_3H_5O_3=112$.

Sodium bicarbonate	q. s.
Lactic acid...............................	q. s.

Dilute the acid with 3 parts of distilled water, heat to boiling, and saturate with sodium bicarbonate; then evaporate and pour it into forms to solidify.

A very deliquescent salt. The solution, evaporated to a syrupy consistence, deposits flattened prismatic crystals and star-shaped groups of needles.

58. *Neutral Sodium Sulphite.* Na_2SO_3, $7H_2O=248$.

Prepare a concentrated solution of pure crystallized sodium bicarbonate (1 part of salt to 2 of water); divide it into two equal parts, saturate one part with sulphurous acid gas until the latter ceases to be absorbed. Add the reserved half to this, and boil to expel the excess of gas. The solution now contains an entirely neutral sulphite, which is obtained in crystals by evaporation. The salt must be kept protected from the air. It forms oblique rhomboidal prisms, is very soluble in water, most at 33° C. (91.4° F.). Above this temperature it deposits crystals of neutral anhydrous sulphite. Its solution, if slightly alkaline, slowly oxidizes in the air. 100 c.c. of a solution containing 1.26 gm. of the pure salt in a litre, mixed with starch-paste, absorb 10 c.c. of a solution of iodine, containing 12.7 gm. per litre, before exhibiting a persistent blue color.

59. *Sodium Sulphovinate.* $NaC_2H_5SO_4$, $H_2O=166$.

Prepare first the sulphovinic acid by pouring very gradually, and in small quantities at a time, under constant stirring, 1,000 grammes of sulphuric acid, spec. gr. 1706, into 1,000 grammes of alcohol of 96 per cent. Let the mixture stand several hours, then dilute with 4 litres of distilled water, and saturate the liquid with pure barium carbonate. Allow the barium sulphate to settle and filter. The filtrate, being a solution of barium sulphovinate, is decomposed by a solution of sodium carbonate, until no more precipitate is formed. The clear filtrate is evaporated so as to form crystals, which are purified, if necessary, by recrystallization. The crystals must be kept in well-stoppered vials. The above proportions yield about 1,000 grammes of the salt.

Sodium sulphovinate crystallizes in hexagonal tables; it has a slightly unctuous feel, is very soluble in water and alcohol, and when heated in a capsule to 120°C. (248° F.), it disengages alcohol. It is almost free from bitterness, should have no acid taste, and must contain no sulphate, which may be ascertained by its not being precipitated by barium chloride, and must be free from traces of barium, which is shown by its failure of reacting with soluble sulphates. If either of these impurities are present, it should be rejected.

60. *Zinc Phosphide* ($Zn_3P_2 = 257$).

A tubulated stone-ware retort is charged to one-fourth of its capacity with pieces of pure distilled zinc, placed into a furnace and through the neck a current of dry carbonic acid gas is passed. Its tubulure is closed with an imperfectly fitting stone-ware stopper, to permit the escape of CO_2. Heat being applied, as soon as the zinc boils, small pieces of dry phosphorus are from time to time dropped in through the opening, the stopper being instantly replaced after each addition. From time to time the crust of phosphide of zinc formed must be broken up with an iron rod, in order to expose new metal to the action of phosphorus. Finally the retort is strongly heated, so as to cause the remaining uncombined zinc to melt together at the bottom. The mass is removed, the phosphide of zinc reduced to fine powder, and the metallic zinc reserved for another operation. Any pieces which do not powder easily must be removed, as the compound is the more brittle, the closer it approaches in composition to the formula Zn_3P_2. In this condition it resembles reduced iron, and no other sort should be used. It is completely soluble in hydrochloric acid.

Phosphide of zinc crystallizes in right-angled prisms with rhombic base and of metallic lustre. Its density is 4.72. It is very friable, slate-colored when powdered, and unalterable in air. Dilute hydrochloric, sulphuric, and tartaric acids decompose it, producing the corresponding zinc salts, and causing the disengagement of gaseous phosphoretted hydrogen (PH_3).

It is administered in pills containing 8 milligrammes (0.008 gm.) of the compound, representing 1 milligramme (0.001 gm.) of active phosphorus.

61. *Picrotoxin* ($C_5H_6O_2 = 98$).

The powdered berries of Cocculus Indicus are twice treated with boiling alcohol, to exhaustion. The alcohol is recovered by distillation, and the residue is boiled with water. To the boiling solution a small quantity of lead acetate is added, to precipitate the coloring matter. The liquid is rapidly filtered and the excess of lead in the filtrate is removed by sulphuretted hydrogen. The liquid is again filtered while still warm, and evaporated, when the greater part of the picrotoxin is deposited. It is purified by crystallization from boiling water.

This substance, which is not an alkaloid, appears in form of white prismatic needles, odorless, but of an insupportably bitter taste. It is soluble in 150 parts of cold, and in 25 parts of boiling water; in 3 parts of strong alcohol, and in 2½ parts of ether. Sulphuric acid colors it saffron-red. It does not evolve ammonia, when heated with fixed alkalies (absence of nitrogen), and leaves no residue on incineration.

Mistura Glycyrrhizæ Composita. (Ch. R.) (Brown Mixture, which deposits no sediment).

Fluid extract of liquorice	2	fl. oz.
Glycerine	4	"
Syrup	6½	"
Tr. opii camphor	2	"
Vin. antimonii	1	"
Spts. ætheris nitros	½	"

Mix the glycerine and fluid extracts; then mix the last three liquids, add the two mixtures together, and lastly the syrup. This mixture is dichromatic, appearing brown and opaque by reflected light, but clear and reddish by transmitted light.

Ricord's Cough-Pills.

Morphiæ hydrochloratis		gr.	v.
Extracti hyoscyami		"	viii.
Rad. belladonnæ pulv.,			
Rad. glycyrrhizæ pulv.,			
Mellis	āā	"	xlv.
Balsami tolutani,			
Ol. theobromæ	āā	"	lxxv.

Make into 100 pills. Each contains $\frac{1}{20}$ grain of hydrochlorate (muriate) of morphia.

Dose: One pill every 5 or 6 hours in chronic bronchitis, accompanied with cough.

Tinctura Physostigmatis ætherea. (Hager).

Extract of calabar, 10 parts, are mixed with 2 parts of magnesium carbonate, the mixture is dried with a gentle heat, powdered, and macerated for 2 days with 60 parts of pure ether. The ethereal filtrate, amounting to about 50 parts, is diluted to 100 parts with dilute alcohol. It should be protected from the light.

This tincture contains mainly physostigmine and only traces of calabarine. (See NEW REM., vi., 163.)

Remedy for Bromine Acne.—*The Doctor* says that a patient in St. Bartholomew's Hospital, who has bromine acne as a result of taking half-drachm doses of bromide of ammonium to stop her epileptic fits, has been relieved of the acne by the use of the following lotion:

℞	Sulphuris precip.	℥ iij.
	Spir. camphoræ	ʒ j.
	Aquæ calcis	ad. f℥ iij.

Fiat lotio.

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Mr. J. A. Wanklyn has been appointed Lecturer on Chemistry and Physics at St. George's Hospital, in London, in place of Dr. Nood, who has lately died.

NEW PATENTS AND LAWS.

[*We will furnish gratis, to subscribers, any information relating to new patents which can be obtained from the Official Gazette of the Patent Office; and for 50c. will give copies of the drawings of such as are illustrated. Electrotypes of the illustrations contained in* NEW REMEDIES *will be furnished for 50c. per square inch.*

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TRADE-MARKS REGISTERED IN U. S. PATENT OFFICE.

Certificates dated July 3, 1877.

Medicinal Preparations.

4,798. O. Ellison, Ironton, Ohio. The figures of the mule and lion, and the words and figures "Eclesiastes, chap. 9, verse 11."

4,810. Victor E. Mauger, New York, N. Y. The representation of a star containing a monogram composed of the letters A. S. C.

4,819. Theodore Curran, Newark, N. J. A circular device bearing within concentric circles the words "Tanner's German Ointment, Jordan, N. Y.," and the figures 1849, and within the inner circle the representation of the head and bust of a man, the whole printed in red ink on a white ground; and second, of a representation of an American eagle holding in its beak a ribbon with the motto "E pluribus unum," and in its talons a bundle of arrows, etc.; and also of the fac-simile of the signature "John F. Tanner."

4,820. John Linden, Cleveland, Ohio. The figure of the hand holding the surgical instrument known as "John Linden's Improved Resuscitator," and the representation of the vial, the same being used in connection with the words "J. Linden's Improved Oleum Baunscheidtii," which are inscribed on said vial.

4,832. George Dales, Bloomville, N. Y. The word-symbol "Brandin." (Salve.)

Soap.

4,818. Theodore Curran, Newark, N. J. The anchor and the letters "S" and "T."

Paints.

4,807. Heath & Milligan, Chicago, Ill. The word-symbol "Magnetic."

Certificates dated July 10, 1877.

4,834. Bussing & Haddon, New York, N. Y. The word-symbol "Imperial." (Concentrated lemonade.)

4,835. Cornwall & Brother, Louisville, Ky. A representation of a star surmounted by a crescent. (Soap.)

4,836. Albert C. Emerick, Toledo, Ohio. The word-symbol "Sapopolitum." (Cleaning compound.)

Certificates dated July 17, 1877.

Medicinal Preparations.

4,840. J. S. Burdsall, Cincinnati, Ohio. The word-symbol Phosphorene. (Preparation for destroying vermin.)

4,849. J. A. Heintzelman, Philadelphia, Pa. The facsimile signature of the same.

4,872. Dr. Hubbard & Co., Louisville, Ky. The picture of an open medicine case.

4,876. Caswell, Hazard & Co., New York, N. Y. The representation substantially as shown on said facsimile, of men engaged in the manufacture of cod-liver oil near the sea, and of a vessel sailing upon the sea.

4,879. A. J. Laubach & Co., Philadelphia, Pa. The fanciful word-symbol "Eclectic." (Liniment.)

4,897. Jules Houriet, Terre Haute, Ind. The word-symbol "Swiss."

4,903. Dr. D. Jayne & Son, Philadelphia, Pa. The name "D. Jayne" in the form of a water-mark.

4,904. Coussens & Tabler, Nashville, Tenn. The monogram composed of the letters and character "C. & T.," and the fac-simile of the signature of "J. N. Tabler, M.D."

4,908. William L. Keller, Baltimore, Md. The word-symbol "Roman" in connection with the word "Liniment."

4913. William M. Olliffe, New York, N. Y. The figure of a Maltese cross with the letters O. L. L. F. F. E. running in a perpendicular manner through the centre thereof, and also at right angles thereto, having a human eye in the centre.

4,914. James D. Thorndike, Boston, Mass. The word-symbol "Vitalizer," and the letter "V," with the letters "italizer" upon one of its sides.

4,915. George J. Wenck, New York, N. Y., assignor to Margaret E. Wenck, same place. The word-symbol "Wenck's Liebig's."

4,917. Dundas Dick, New York, N. Y. The words "Soft Capsules."

4,918. Nathan F. Philo, Crescent, N. Y. The arbitrarily selected word "Mohawk." (Cough syrup.)

4,920. Henry A. Tilden, New Lebanon, N. Y. The word-symbol "Diptherine."

Paints, Oils, etc.

4,842. J. H. Chadwick & Co., Boston, Mass. The word-symbol "American Mine" used in connection with the word "White."

4,846. Haas Brothers, San Francisco, Cal., and New York, N. Y. The word-symbol "Safeguard." (Refined petroleum.)

4,846. The same. The word-symbol "Popular."

4,858. Willman, Peck & Co., San Francisco, Cal. The word-symbol "Bonanza." (Petroleum.)

4,906. Eckstine, Hills & Co., Cincinnati, Ohio. The word-symbol "Phœnix," and the representation of the phœnix.

Soap.

4,868. Cornwall & Brother, Louisville, Ky. The word-symbol "Dublin."

4,892. Robinson Brothers & Co., Boston, Mass. The word-symbol "Giant."

4,919. Proctor & Gamble, Cincinnati, Ohio. The word "White" displayed in ornamental characters upon a blue ground.

Perfumes and Cosmetics.

4,854. Willard E. Masten, Albany, N. Y. The word-symbol "Capital City."

4,873. Caswell, Hazard & Co., New York, N. Y., and Newport, R. I. The word-symbol "Lotus Balm," arranged substantially as shown in said facsimile, and a representation of palm-trees and pyramids, etc.

4,875. The same. A shield colored red and blue, and having diagonally across it a white band, and upon its field a golden *fleur-de-lis*, and a golden musk-deer's head, said belt, the motto "Labor omnia vincit," said pestle and mortar, and the figures 1780.

4,877. The same. The word-symbol "Philocome" and the representation substantially as shown in the accompanying facsimile, consisting of the parts of the general trade-mark commonly used by the firm, etc., etc.

4,878. Howard, Sanger & Co., New York, N. Y., assignors of one-half their right to F. R. Arnold & Co., same place. The facsimile signatures of Howard, Sanger & Co. and F. R. Arnold & Co. upon the border, and "Flll Sencs" near the bottom.

4,882. Alfred B. Taylor, Philadelphia, Pa. A symbol representing the United States quarter-dollar, the same being used in connection with the words "Twenty-five Scent Cologne."

LABELS.

Certificates dated July 3, 1877.

1,105. "Compound Glycerite of Carbolic Acid and Camphor." R. B. Ferguson, Washington, D. C.

1,107. "Prof. Shaw's Chiropodin, or Perfumed Foot Powder." Little & Shaw, New York, N. Y.

1,108. "Heath & Milligan Perfect Green." Heath & Milligan, Chicago, Ill.

Certificates dated July 10, 1877.

1,109. "Ceylon Balsam." L. H. Colborne & Co., New York, N. Y.

1,110. "No. 4,711 Eau de Cologne." Fritz W. Fuchs, Hoboken, N. J.

1,111. "A Sanitary Measure to Prevent Disease." Gross Brothers, Milwaukee, Wis.

1,112. "S. H. Kennedy's Concentrated Extract of Pinus Canadensis." Simon H. Kennedy, Omaha, Nebraska.

Certificates dated July 17, 1877.

1,117. "Richard L. Brown's Horse Eye-Water." Richard L. Brown, Rockville, N. C.

1,121. "The Stock Liniment." Painter & Calvert, San Francisco, Cal.

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PATENTS.

Patents granted July 3, 1877.

Adhesive substance, Long & Drake............	192,773
Bath apparatus, shower, H. J. Bailey..........	192,728
Coloring fruits and vegetables, Lecourt & Guillemare................................	192,771
Crucibles and pots, apparatus for molding, R. Taylor..................................	192,604
Dental plugger, R. B. Donaldson..............	192,746
Dentist's chair, E. Burritt....................	192,809
Electrode for electrical bath-tubs, G. M. Schweig.	192,601
Hog-cholera compound, R. E. & F. M. Madison.	192,590
Oil-can and package for carrying fluids, G. T. Hunsaker..............................	192,581
Refining and aging alcoholic liquors, apparatus for, G. Clark..............................	192,635
Sheep-wash, W. Little.......................	192,587
Stop-cock for elastic and flexible tubing, R. Lapham................................	192,584
Tonsorial compound, W. Clark................	192,565

Patents granted July 10, 1877.

Beer and other casks, device for tapping, J. Felbel.	192,908
Beverage, table, J. J. Rogers................	192,038
Bottles, etc., in cases, packing, E. Vorster.....	192,956
Can for fluids, W. McClave..................	193,016
Exercising machine, I. W. McGaffey..........	192,836
Mucilage-holders, stoppers for, S. S. Newton....	193,023
do do do	193,024
do do do ...	193,025
Oil-can, W. T. McNally......................	193,017
Toilet articles, receptacle for, J. Vernon........	193,058

Patents granted July 17, 1877.

Bottle-stopper, A. E. Rich (re-issue)...........	7,797
Dental engine, hand-piece, G. W. Tripp........	193,300
Dyeing yarn and fabrics in aniline black, W. J. S. Grawitz..............................	193,158
Faucets, lining for, W. Cleaveland............	193,111
Lubricating compound, J. H. Pitt............	193,280
Oil-can, W. H. Bartels......................	193,212
Oil-can, J. Fleming.........................	193,114
Saddle-bags, physicians', Suter & Furney........	193,288
Soap, machine for cutting, Chandler & Boesch...	193,223
Vaccinating instrument, T. S. Brinkerhoff.......	193,076

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Tar-water.—In order to render tar more soluble, and more manageable in making tar-water, M. Magnes Lahens recommends that it be first mixed with pine saw-dust.

ITEMS.

College of Pharmacy of the City of New York.—The Forty-eighth Annual Session of this College will be inaugurated on Monday, September 24, 1877, at 7 P.M., and will continue until March 8, 1878. During the past summer the collections of the College have been overhauled and augmented, large additions have been made to the library and to the stock of apparatus, and arrangements are pending which promise to make the collection of Materia Medica and the Herbarium one of the most complete of the country, so far as medicinal products are concerned. The laboratory has also received its share of new utensils and apparatus, and this department of the College deserves particular attention on the part of the students, as a knowledge of analytical chemistry will be required at the examination.

For the benefit of those who are interested, we wish to say that all colleges are gradually but steadily raising the standard of knowledge demanded of a graduate, and that this college will rigidly demand of each candidate not merely a good theoretical knowledge of chemistry, pharmacy, botany, and materia medica, but, in addition, such practical skill and knowledge as will justify the College in certifying to the candidate's competency in compounding prescriptions.

The second year's students should immediately, at the beginning of the course, arrange quizz-classes among themselves. A general quizz, by means of written answers to proposed questions, will probably be arranged by one of the trustees; further information of this will be furnished at the College.

Obituary.—Died, on July 17th, at Thusis, Canton Graubünden, Switzerland, Prof. Dr. August *Husemann*, at the early age of 44 years. He was educated as a pharmacist, but afterwards devoted himself exclusively to chemistry, in which he soon distinguished himself. Besides many papers contained in various journals and transactions, he edited the main portion of the supplement to Gmelin's Chemistry, wrote an excellent manual of chemistry, and published, in connection with his cousin, Dr. Theodor Husemann, of Göttingen, the well-known work: "Pflanzenstoffe, in chemischer, physiologischer, pharmakologischer und toxikologischer Hinsicht," which is a storehouse of information indispensable to chemists, pharmacists and physicians.

Davyum, a new Element.—Mr. Sergius Kern has announced the discovery, among platinum-residues, of a new metal, which appears to occupy a space between molybdenum and ruthenium, and to which the discoverer has given the name of *davyum*, after Sir H. Davy. It is, however, remarked by some of our contemporaries, that Mr. Kern's statements not unfrequently require confirmation, and hence, it will be wise for chemists to await further developments in reference to *davyum*, before "staking their davy on it."

Glass-wool is made up of finer filaments than any animal or vegetable fibres known, the diameter of its fibres measuring only 0.0004 to 0.0056 *millimetres*. It forms an excellent filtering material, but it should be freed, by means of acid, from the sulphur it contains in form of sulphides.

Water-proof Paper.—M. Th. Anger exhibited, at a recent meeting of the Société de Chirurgie in Paris, a specimen of water-proof paper prepared with glycerine, which would take the place of oil-silk or india-rubber cloth in many cases, and could be made very much cheaper.

Dr. M. Ritter has been appointed Professor of Medical Chemistry and Toxicology in the Medical School at Nancy.

M. Alfred Deshaies, an assistant in the Department of Chemistry in the Collège de France, was recently found dead in his laboratory. It has been supposed that he had been experimenting on some compound, and had been poisoned thereby.

An Electrical Plant.—The *Horticultural Gazette*, of Nicaragua, says *L' Union Médicale*, publishes some statements regarding a plant of the family of the *Phytolaccaceæ*, which grows in that country, and possesses electro-magnetic properties. When one touches a twig of the plant the hand receives as vivid a shock as from a Rhumkorff battery. The reporter, surprised at the phenomenon, made some experiments with a small compass. Seven or eight paces off the influence of the plant made itself felt. The deviation of the compass-needle was in proportion to the distance; the nearer it was brought the more marked the movements became, and when the instrument was placed in the middle of the bush the movements were changed into a rapid rotation. The subjacent soil did not contain any iron or other magnetic mineral. There was not any doubt that the electric quality resided in the plant itself. The intensity of the phenomenon varied with the time of day. At night it was scarcely perceptible; at two o'clock P.M. it attained its maximum. During a thunder-storm its power was increased, but when it rained the plant faded. The reporter has never seen birds perch nor insects light upon the *Phytolacca electrica*.

Ether Drinking in the North of Ireland.—Mr. H. N. Draper, who in 1870 made a communication to the *Medical Press and Circular* on the subject of ether drinking, has contributed further facts to the same journal of the 30th of May. "When ether first appeared in County Derry (said to be about 1842) 'the wonderful new drink' was greatly spoken about, and people became gradually acquainted with it, its use at length spreading rapidly until it came to their very doors. The publicans in Maghera do not sell it, but it is got at the shops of the petty grocers, who obtain it from the local druggists, and who, it is said, sell it at a large profit to people who would not drink whiskey. The dose is half an ordinary wineglassful, or rather less. Many drink it pure, taking about the same quantity of cold water immediately after it. Others mix water with it, using equal parts, while some take it mixed with only about one-fourth part of water. Water seems in all cases to be swallowed after the dose." The use of ether reached a climax in the locality referred to about 1869, since when, through the efforts of the clergymen, it has decreased somewhat. The ether was at first used pure for some years, but it is said to have been of late greatly adulterated. Towards the end of 1875 a young man was said to have died suddenly from excessive use of ether and whiskey, and an account is also given of a man whose breath ignited during the attempt to light his pipe soon after taking a drink of ether. Loss of sight and insanity are also reported as effects of the use of ether as a stimulant.

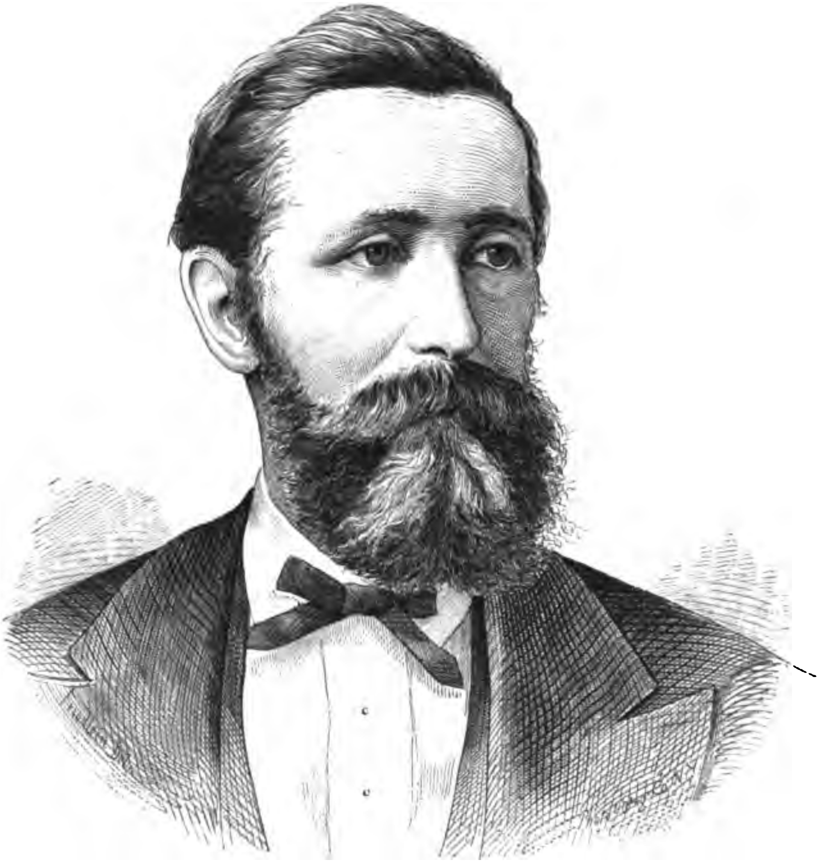
Salicylic Acid is being largely advertised in France for preserving wine, beer, and cider during the summer heats, and for preserving milk and *bouillon* from souring; also for aiding the preservation of jams, jellies, and other confections, with an economy of sugar, said to amount to 25 per cent.

A First-Class Notice for nursing bottles is the one recently sent by the well-known writer Dumas *fils* to the *directrice* of an infants' hospital in Paris. Speaking of the popular aversion to artificial nursing, he says: "The nursing-bottle is in entirely too much discredit. I myself was brought up with one, and it happens that on this very day, July 27th, I am fifty-three years old, and have never had a serious sickness."

British Pharmaceutical Conference.—Mr. G. F. Schacht, of Clifton, succeeds to Dr. Redwood as President of the above association. Prof. Attfield, of London, and Mr. F. B. Benger, of Manchester, continue to act as general secretaries. The next meeting will be held in Dublin, where the local secretary will be Mr. W. Hayes.

Jalap Culture in Jamaica.—Nearly two acres of land attached to the Cinchona plantation of the botanical garden in Jamaica is now systematically cropped with jalap. The product last year amounted to 1,700 lbs., and 3,000 lbs. additional were expected to be obtained in the course of last spring.

SUPPLEMENT TO
"NEW REMEDIES," an Illustrated Monthly Trade Journal.
New York, Oct. 15, 1877.



WILLIAM SAUNDERS, LONDON, ONT.

President, American Pharmaceutical Association.

1877.

From a Photograph by
Notman & Frazer, Toronto, Ont.

NEW REMEDIES.

AN ILLUSTRATED MONTHLY TRADE JOURNAL OF
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CHARLES RICE, - - ASSOCIATE EDITOR.

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¼ " or ½ "	12 00	30 00	50 00	90 00
¼ Column..................	8 00	20 00	30 00	50 00
⅛ "	5 00	12 00	20 00	30 00
1/16 "	3 60	8 00	12 00	20 00

No advertisement taken for less than 1/16 column.

EDITORIAL.

IF we may judge by the circular published on page 309, the Committee on the Pharmacopœia appointed last month by the American Pharmaceutical Association has gone so promptly and earnestly to work that we have the strongest hopes of the success of its labors.

Other societies working independently of the American Pharmaceutical Association, will, it is reported, prepare suggestions for the revision of 1880, with the view of submitting them to the National Convention. The result in this case must be either that the same ground will be gone over and similar conclusions reached, or else a variety of methods and opinions will be urged, with more or less force, by organizations which represent a much more limited region than the one covered by the American Pharmaceutical Association. The former would be a sheer waste of skilled labor and a calamity in every sense, while in the case of conflicting reports, the Convention (or its committee) may either undertake the labor of combining the essential features of all the propositions submitted, or may do with them just as it has done with other suggestions at former revisions—simply ignore them. If, however, the final Committee of Revision untertake in good faith to harmonize conflicting suggestions, they will be burdened with labor which can quite as well be done in great part by the Committee of the American Pharmaceutical Association, with the result in the latter case of saving time and adding to the harmony and efficiency of the Convention in 1880.

It would be a wiser plan of action for local associations to decide upon and communicate to the committee of sixteen, the features which will best adapt the Pharmacopœia to their own wants. Any surplus energy may well be expended in assuming some part of the labor of arranging materials for the complete work which the committee are expected to have prepared in time for the meeting in 1879.

It is not very likely that the American Medical Association, as a body representing the physicians of the country, will make any corresponding effort to prepare suggestions, which shall indicate to the Convention what therapeutical agents are most desired by them; but the Association would certainly do much, by such a course, to relieve itself from the discreditable position which it now occupies in relation to the Pharmacopœia.

There remains, however, a fact to be considered which is of supreme importance. In 1880 the several medical and pharmaceutical bodies entitled to representation will be called on to send delegates to the Convention.

Whether the suggestions of the American Pharmaceutical Association or any other organization are accepted and considered by the final Committee of Revision, will depend upon the character of the delegates of whom the Convention is composed. The opponents of the plan of revision proposed by Dr. Squibb, insist that the faults have not been in the present system, and that all he claims for his method could be accomplished by the old one. It is well known, however, that coincidently with two revisions, suggestions have been made to the Convention, and by it have been referred to the Committee of Revision, with positive instructions, and that the result has been *nil*. This has become so well known that the medical and pharmaceutical professions will have only themselves to blame, if, in 1880, they send delegates who will permit another repetition of this course, and allow the gratuitous, but none the less arduous and careful labors of the Committee of the American Pharmaceutical Association, to be pigeon-holed like the voluminous suggestions which have preceded them.

It is a cause for regret that Dr. Squibb should have had occasion to decline the chairmanship of the committee—a position to which both his knowledge of the subject and the exceptional interest he has shown in the revision of the Pharmacopœia well entitle him to hold. No better proof could be desired, however, of the unselfishness of the motives which have actuated him in his efforts to improve our national standard, than his reluctance to afford, by his presence in the committee, the least excuse for opposition to its labors. Such opposition would mostly be from those who, desiring the Pharmacopœia to remain in very nearly its present shape, and under the control of its former managers, have not scrupled to charge Dr. Squibb with wishing to advance his personal interests as the motive for the active part he has taken in agitating the question of revision.

In our notice, on page 283, of the annual announcement of lectures in the Medical Department of the University of Michigan, we omitted to include the Medical Department of Syracuse University among the medical schools which are doing most to advance the standard of medical education among us. We are, therefore, glad to publish the letter of the Registrar of the latter institution, and to add our indorsement of the course which it has been pursuing, and of the character of the instruction given.

A meeting has recently been held in this city to take preliminary steps towards organizing a Therapeutical Society. We have already expressed our opinion of the need which exists for such an association of physicians, and shall anticipate with great interest the development of its plan of operations, which, we understand, will aim to promote our knowledge of therapeutics by careful observations of the action of selected remedies in specified conditions.

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A Whale Abattoir in Norway.—On a small island opposite to the town of Wadsö, in the extreme north of Norway, an establishment has been founded by a Norwegian, Mr. Foyn, for the regular capture and slaughtering of whales. Small steamers go out to the fishing grounds, which are within easy reach of the island, and the capture is effected by firing from a cannon an iron bolt armed with four harpoons, and provided with a shell which explodes as soon as the whale makes traction upon the line. The carcasses are towed into the harbor and worked in the usual manner.

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

Iodine—Its Past and its Future.

Ten years ago the only source of iodine was the so-called varec, or kelp—that is, the fused ash resulting from the incineration of various kinds of sea-weeds, chiefly algæ and fuci, growing on the rocky coasts of many countries, principally the British Isles and France. Since the smaller manufacturers of kelp along the Scotch and French coasts needed, about the time of the annual harvest, considerable sums of money to pay for labor and material, there sprang up the custom of borrowing funds from some large house in Glasgow, and of transferring to the latter the monopoly of the sale of the iodine and potassium chloride obtained from the kelp. This arrangement was first seriously disturbed by the discovery of the inexhaustible potash-mines of Stassfurt, which caused a constant decline in the price of potassium chloride, so that iodine, which heretofore had been merely a by-product in the preparation of potassium chloride from the kelp, became the only paying product to be obtained from the latter, and therefore had to be raised in price to cover all expenses. Just about the same time there arose a great demand for iodine for the manufacture of certain aniline colors, all of which resulted in raising the price of the drug successively from four to thirty pence per ounce.

When, in 1871, the mother-waters of the Chili saltpetre obtained in the Peruvian mines were found to pay by being worked for iodine, the Scotch monopolists ridiculed the news at first, but soon found that they had met a formidable rival, and in consequence thereof endeavored to get control of the new source. They, however, found it uphill work to negotiate with the rich Peruvian miners, whom they could not buy up as they did the small Scotch kelp-burners. The mother-waters in the Peruvian mines, which perhaps were not as rich in iodine in former times, had heretofore been allowed to run to waste, until it was ascertained that they could be made to yield iodine with profit, when the owners at once started the necessary works and pocketed the unexpected extra profits. In the beginning the process was carried on in a very primitive way, but, in consequence of improvements made by chemists engaged in England and Germany, the method and product soon improved, and in a few years was fully equal to that produced in Scotland, containing 99.5 per cent. of pure iodine. [It may be observed, *en passant*, that the usual appellation "Chili iodine" should be replaced by "Peruvian iodine"]. The new source of iodine naturally had a great influence upon the price. A considerable reduction was brought about, particularly by forced auction sales, until in 1876 the price had come down to 5 pence per ounce. At this price a large majority of kelp-manufacturers had to give up the production, and even larger firms, in spite of improvements in process and apparatus, could only work at a loss. On the other hand, the Peruvians, who had been induced, by the high price of iodine, to enter into its manufacture, likewise found the production becoming unprofitable, as the climate not only causes more expenses for wages, fuel, etc., but even occasions greater loss by volatilization. In consequence of this condition of things, negotiations were started, which led to an agreement, entered into during last February by all iodine manufacturers, to place the sale of *all* the iodine produced into *one* hand, whereby the price was raised, first to seven, afterwards to ten and one-half pence per ounce. This is about the market now, and has been for nearly five months; but since during last March, a quantity of iodine, equal to the whole consumption for six months, had been sold to one firm at nine pence, this quantity now runs opposition, as long as it will last, to the price of the monopolists. As soon, however, as this lot is sold, the market will be absolutely in the hands of the producers, who can ask any price they choose.

Regarding the near future of the article, it is only possible to give surmises. The convention was concluded for one year, until Feb., 1878, with a guaranteed price; but it is quite likely that it will be prolonged, as all producers are benefited by it.

The Scotch manufacturers, under the most favorable circumstances, cannot sell their iodine at present under eight pence; and on open competition, which might depress the price again to five pence, would have to stop work. The Peruvians maintain that eight pence is the price which the production of iodine costs them; hence, as long as this unanimity exists, this will have to be considered the lowest price of the drug for some years to come. At the same time it must be stated that the yield of iodine from the Peruvian mines is now so considerable that Peru alone would be able to supply double the demand of all nations, whence we may conclude that in future years its price will be much lower.

For the present we are sure of a stability of the price until February next, and probably also, in the event of a renewal of the agreement, for the next two years. After that period, however, it is more likely that an excess of production will result in a reduction of price.*—*Pharm. Handelsblatt*, No. 93.

Analyses of Patent and Secret Remedies.

THE *Industrie Blätter*, of Berlin, edited by Dr. E. Jacobsen, having offered to analyze *gratis* any patent medicines sent to them in the original package, the analyses of over eleven hundred such preparations, made by Drs. Hager, Wittstein, Rose, Chandler, Reveil, and others, have been collected together by E. Hahn, and published in book form. The following is the presumed composition of some preparations well known in this country, taken from a larger number given in the *Scientific American*.

Dr. Pierce's Golden Medical Discovery.—A one-dollar bottle holds 220 grains of a brownish colored, clear liquid, consisting of 15 gr. of pure honey, 1 gr. of extract of poisonous or acrid lettuce (Lactuca virosa), 2 gr. of laudanum, 100 gr. dilute alcohol (64%, tasting like fusel oil and wood spirit), with 105 gr. of water.

Asthma Pastilles (Daul, White & Co., New York), according to the analysis of Dr. Flick, contain 20.1% saltpetre, 3.5% impure resin of scammony, 35% gum and sugar, 40% charcoal powder, leaves and stems of some plants.

Ayer's Pills consist of pepper, colocynth, gamboge, and aloes.

Ayer's Hair Vigor.—A solution of 0.6% sugar of lead.

Horsford's Baking Powder.—One powder contains acid phosphate of lime and magnesia, mixed with a certain quantity of flour; the other is bicarbonate of soda.

Brandreth's Pills (says Dr. Hager) consist of gamboge, podophyllin, inspissated juice of phytolacca, saffron adulterated with yellow root, pulverized cloves, and oil of peppermint.

Dr. Brown's Chlorodyne contains 5 parts of concentrated muriatic acid, and 10 parts each of ether, chloroform, tincture of cannabis indica, and tincture of capsicum, 2 parts each of morphia and hydrocyanic acid, 1 part oil of peppermint, 50 parts simple syrup, and 3 parts each of tincture of hyoscyamus and tincture of aconite.

Tobias's Condition Powders contain, says Schädler, 2 grammes of tartar emetic, 20 grammes of black sulphide of antimony, 10 grammes of sulphur, 40 grammes of fœnum græcum, and 20 grammes of juniper berries.

Hamburg Tea contains 22 parts of senna leaves, 16 parts of manna, 8 parts of coriander, and 1 part of tartaric acid, ground up together.

Dr. Sage's Catarrh Remedy, says Schädler, contains 0.5 grammes of carbolic acid, 0.5 grammes of camphor, and 10 grammes of common salt, which are to be dissolved in ½ litre of water and injected into the nostrils.

Schenck's Mandrake Pills.—Hager says that these pills contain no mandrake. They do contain the constituents of cayenne pepper, a bitter extract, and some vegetable powder containing tannin.

Bishop's Granular Effervescent Citrate of Magnesia.—According to Löhlin, this contains neither citric acid nor magnesia, but is merely a mixture of bicarbonate of soda and tartaric acid.

R. R. R. consists of a reddish yellow liquid which smells of ammonia and camphor. It contains 14 parts of soap, 40 parts of 10% ammonia, 640 parts of alcoholic extract of cayenne or Spanish pepper, 4 parts of camphor, and 2 parts of oil of rosemary.

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* The tornado which occurred in June last, and which destroyed nearly all the nitre works in Peru (see Editorial on page 163 of our June number), may have the effect of modifying in a very decided manner the prospects referred to by this writer.—[ED.]

Mrs. Winslow's Soothing Syrup consists, says Hager, of 8 parts of white simple syrup mixed with 1 part of a tincture made by extracting 10 parts of freshly crushed fennel seed and 1 part of oil of fennel with 60% spirits.

Sozodont.—This reddish liquid consists of a solution of 5 grammes of oil soap in 6 grammes of glycerine, 30 grammes of spirits, 20 grammes of water, perfumed with a few drops of oil of peppermint, oil of cloves, oil of cinnamon, and oil of anise, and colored with cochineal. The powder is a mixture of carbonate of lime, magnesia, and orris root.

Worm Lozenges contain 1 part of calomel, 6 parts of santonin, and 290 parts of sugar.

World's Hair Restorer contains, says Wittstein, 5.6 grammes of sulphur, 8 grammes of sugar of lead, 100 grammes of glycerin, and 200 grammes of aromatic perfumed water.

New Apparatus for the Estimation of Urea.

As a continuation of the article on the Estimation of Urea, contained in our last number, we give a description of Depaire's apparatus, in which the urea is likewise decomposed by means of an alkaline solution of sodium hypobromide.

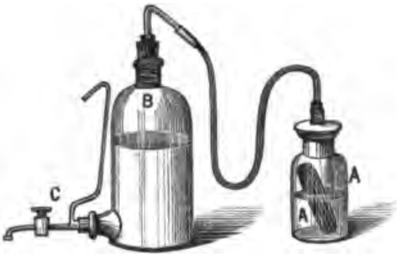

Fig. 1.—Depaire's Apparatus.

Fig. 1 represents one form of the apparatus. This consists of a wide-mouth bottle *A*, fitted with an accurately ground glass stopper perforated by a glass tube. It is charged with a quantity of sodium hypobromite solution sufficient to fill the bottle to about one-third of its height. The urine to be examined is introduced into the tube *A'*, which is of such a length that its contents cannot flow out, except by inclining the bottle. The gas is collected in the flask *B*, which has two tubulures, one above and connected with *A*, the other near the bottom and carrying the tube *C*, which enters by one end through the cork closing the lower tubulure, is provided with a faucet near the other end, and carries besides, as shown in the cut, an upright branch bent downward at the upper end, and open. When the apparatus is to be used, the bottle *A* is charged with the hypobromite solution, the tube *A'* containing 10 c.c. of urine is carefully placed into it, and the stopper inserted. This causes some water from the flask *B*, which at the beginning must be nearly full of water, to be discharged from the open end of the upright branch of *C*, after which the level of the water contained both in the tube and in the flask is made uniform by allowing some water to flow through the faucet. A measuring-glass (125 c.c.) having been placed under the faucet end of *C*, the contents of the bottle *A* and tube *A'* are mixed by gentle agitation, the faucet is opened, and the amount of water which the generated gas has pushed from *B* into the upward branch of *C* is allowed to run into the measuring-glass, until the level of the water in the tube is equal to that in the flask. The number of c.c. of water collected in this manner is equal to the number of c.c. of nitrogen gas evolved.

Fig. 2 represents another form of apparatus, in which the same generator, *A*, is employed, but the gas is measured in the graduated tube *B*. This is an elongated U-tube, of which one side, *B*, is graduated into cubic centimetres and tenths, while the other branch is not graduated, but is connected by a lateral tube with a reservoir of water, *C*, into which the excess of water may be allowed to flow from *B'*, and from which it may be made to run back into *B'* again by compressing the rubber ball *E*. The reaction having been started as in the first case, the generated gas pushes the water, which at the beginning has stood in *B* at the upper mark, over into *B'*, from which a sufficient quantity is allowed to run into the bottle, *C*, to produce an equilibrium of the two columns at the end of the reaction. In either case 38 c.c. of gas correspond to 0.1 gm. urea.

The difficulty of obtaining pure urea led the author to experiment with ammoniacal salts, for the purpose of preparing standard normal solutions. He found that the best substitute for urea is pure ammonium chloride. 17.833 gms. of this salt dissolved in water to measure 1 litre at 15° C., yield a solution, which gives off exactly the same amount of nitrogen as a solution of 10 gms. of urea in a litre of water.

The author also recommends to deduct 4.5 per cent. from the total amount of urea found, to eliminate the error caused by the simultaneous decomposition of uric acid and creatinin.—*Journ. de Pharm. d'Anv.*, 1877, 81.

Malaga Wine.

THE various sorts of "Malaga wine," namely, white tart wine, white sweet wine, Lagrima, Parajete, imitations of Madeira, Sherry, and Port, Moscatel and Tintillo, and the so-called 'Malaga Color,' are all made in the city of Malaga itself. The vintage generally takes place during the first half of August. The must is transported by donkeys to the regular wine-manufacturers, who at once pour it into large vats, and afterwards into strong casks which are left unbunged. After standing for about 6 weeks, it is mixed with 5% of alcohol and drawn off into other casks, in which the fermentation terminates and the wine deposits argol. More alcohol is added to the 'tart' than to the 'sweet Malaga' or to 'Lagrima.' The latter, according to the statements of manufacturers, is the product of the ripest grapes, and exudes without pressure. No Malaga wine, however, is sold or used in its natural condition, but it is mixed with certain liquids, known as *vino tierno* and *vino maestro*, to impart aroma to the various sorts.

Vino tierno is made from grapes of the sort known as "Pedro Ximenes," by pounding them to a mass, moistening with one-third of their weight of water, and strongly expressing. The resulting liquid, after settling, is mixed with $\frac{1}{80}$ part of alcohol and set aside for use. Vino maestro is prepared and kept in smaller quantities; it is made by interrupting the incipient fermentation of the fresh must by the addition of 17% of alcohol, and thereby preserving the original aroma of the grape. Neither of these flavoring wines can be bought in the market, as each manufacturer prepares his own supply, sometimes with slight modifications of process. They are added in various proportions to the fully ripe wine, when the latter is about one year old, to make it *embocado*—that is, full-flavored and palatable.

Malaga Color is a white, either tart or sweet wine, prepared by the addition of two liquids, namely, "Arrope" and "Color." To prepare Arrope, sweet white Malaga wine is heated rapidly to boiling in a copper boiler over a wood fire, taking care to continue the boiling only a short time, and then letting it simmer down, in the course of about 24 hours, to one-third of the original volume. The product has the color and nearly the taste of a good Burgundy "Résiné," being only more bitter and having a burnt taste. It is of the consistence of thin syrup. This *Arrope* is added, in the proportion of 8%, to such white Malaga wines, of one year old, as are to be converted into brown wines. This addition, however, imparts more of a taste than color, and in order to produce the proper tint a quantity of the second liquid, *Color*, must be added. This is prepared from *Arrope*, 80 litres of which are placed in a copper boiler of three times the capacity, to prevent boiling over. By means of a brisk fire and with stirring, the liquid is reduced, in the course of four hours, to about 50 litres, when immediately a mixture of 8 litres of water and 24 litres of fresh must are added to bring the measure back to the original bulk. This *Color* is much darker than the Arrope, more liquid, and very bitter.

All Malaga wines are improved by age. Wine dealers are in the habit, when they have an order for a certain year's growth which is not in stock, to mix two wines of different years' production in the proper arithmetical proportions, and the product is said to be not inferior to the original.—*Drog. Zeit.*

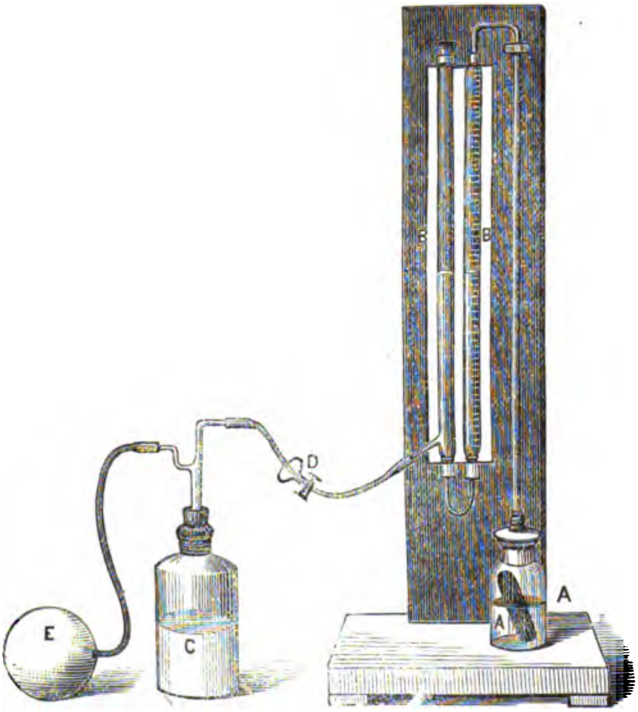

Fig. 2—Depaire's Apparatus.

On Javanese Rhubarb.

Upon Gunung Unarang, and other mountains of Java, at a height of 2,000–4,000 feet, a species of *Rheum* is found, the root of which forms an article of trade, and is termed *akar kelomba* by the natives, who use it as a cathartic. The various portions of the root have special trade-names, namely: *akar kelomba bras*, the upper piece of the root with the remainder of the stalk; *akar kelomba ketan*, the middle piece; and *akar kelomba ketaba*, the lowest piece. The middle portion is most esteemed. A detailed description of this Javanese rhubarb has been given by Mr. J. H. Schmidt, military pharmacist at Wilbem.* He describes it as fleshy, forming elongated or sometimes turnip-shaped cones. Here and there the original dark brown skin is visible, while the remainder appears peeled and speckled with white and red dots. Upon a cross-section the rays are seen to run from the centre to the circumference, crossing the red concentric rings, and appearing to stop abruptly where they reach the dark brown, firm and resinous cambium layer, which has a thickness of 1.1–1.5 millimetres. The middle concentric rings are bright red, and alternate with yellow rings. Upon a few fissures near the centre, caused by drying, fine white felty threads of silky lustre may be noticed, which are seen under the microscope to have a yellow color. A longitudinal section shows in the middle the almost rectangular parenchyma cells, which are partly filled with chrysophanic acid. The lens shows no raphides, but smooth star-shaped knobs of crystals, consisting of calcium oxalate. In odor and taste the root is fully identical with the Chinese rhubarb, but in activity it is at least one-fourth weaker than the latter, according to the observations of Dr. v. Vogelpoel.

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* *Geneeskund. Tijdschrift voor Nederlandsch Indie*, XVII., ii., 98.

Mr. Schmidt directed the attention of the government as early as 1874 towards the possibility of improving this variety of rhubarb by cultivation, so as to raise it to an equal rank with Chinese rhubarb. It appears to be abundant enough, as the Javanese, who generally charge high prices for their native remedies, only ask about 1 gulden (about 41 cents) per kilo of the best quality. As the therapeutic value of Chinese rhubarb is known to improve up to a certain age, the effect of any efforts on behalf of the government to improve the Javanese species will not be known definitely for several years.

Schmidt gives the results of comparative assays of Chinese and of Javanese rhubarb, which show considerable difference of composition. The following tables contain the results:

	Chinese Rhubarb.	Javanese Rhubarb.
Total Ash.	12.15–12.24%	6.27–6.91%
Consisting of:		
Lime	46.8	41.7
Magnesia	4.2	5.3
Soda, potassa	7 3	16.9
Carbonic acid	35.3	19.2
Sulphuric acid	1.1	2.8
Phosphoric acid	5.1	6.8
Silica	0.6	2.
Chlorine	0.6	2.
Carbon and sand	0.8	3.
	101.8	99.7
Chief Constituents.		
Rheo-tannic acid	2.106 per cent.	0 430 per cent.
Phæoretin	0.151 "	0.090 "
Chrysophan	0 056 "	0.170 "
Chrysophanic acid	4.700 "	1.646 "
Emodin	0.580 "	2.000 "
Oxalic acid	Not determined.	

It is not known what particular species of *Rheum* is the source of this Javanese rhubarb, but the determination of this point is comparatively an easy matter, as the places of growth are easily accessible.—*Pharm. Handelsblatt*, No. 94.

Note on Rheum Officinale.

In connection with the preceding article, we quote a paper by Mr. E. M. Holmes, on the new species of Rheum, namely *R. officinale*, Baill., which has of late been supposed the true source of Chinese Rhubarb*

"In some remarks made upon *R. officinale*, some weeks ago, the hope was expressed that a further opportunity of examining the root might clear up the doubts as to the identity in structure of the true Russian rhubarb and the root of *R. officinale*. During the past week Mr. Usher, of Banbury, has kindly afforded me this opportunity.

"A plant three years old was dug up and presented the following features: The sympodium or cluster of root-stocks differs from that of *R. rhaponticum* in its great size, and in the root forming a tuft at the base of the root-stocks, and not springing from their sides. When the root-stocks were trimmed by depriving them of the roots and small lateral shoots, they weighed on the average about 8½ pounds, the central one being about 10 pounds. The root-stocks were nearly cylindrical in shape, tapering very slightly to either end, and about 6 inches in diameter in the middle, and from 15 to 18 inches long. The roots on the average were 1½ to 2 inches in diameter near their attachment to the root-stock, and tapering downward. The root-stocks of some *Rheum rhaponticum* of eleven years' growth, which was lying near, were not more than a quarter the size.

"When the outer portion was carefully sliced off in different parts of the root-stock and root, it *nowhere* presented the appearance characteristic of the true Russian rhubarb. The cortical portion was then removed in several places (this being always absent in Russian rhubarb), and the meditullium or central portion sliced in like manner, but no trace of the network which so markedly distinguishes the Russian rhubarb could be seen. These marks are well represented in *Goebel and Kunze*, pt. II., tab. I., fig. 2 *b*.

"The transverse section of the root-stock also is not so finely grained, and although it is marked with many stellate spots, the markings are much larger and bolder than those of Russian rhubarb, and, in fact, approach more nearly to the markings on English rhubarb. The sections of the true roots present only a radiate structure without any stellate markings. In my opinion, the Russian root is produced by a plant which has a much less rapid growth than the noble *Rheum officinale*, Baill.

"From the English rhubarb the root-stock differs chiefly in its paler color, much larger size, and in the abundance of large stellate markings. As regards its medicinal properties, there is reason to believe that it is much stronger than the English kind, and probably equal to the East Indian. It will most likely be soon tried at two of the London hospitals, and a report upon its action will doubtless follow in due course and awaken considerable interest."—*Pharm. Jour. and Trans.*, IX., 181.

The Poisonous Dose of Castor-Oil Seeds.

It has long been known that the seeds of *Ricinus communis* contain, besides the oil, a peculiar acrid principle, which causes violent vomiting and purging, and which must be reckoned among the acrid poisons. Van Hasselts, a number of years ago, declared one seed to be sufficient to sicken a grown person, and twenty to be sufficient to kill him. This statement was contradicted by Bernelot

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* Compare also the abstract of H. Werner's paper on *Rheum palmatum*, on page 305, and page 98, of April No.

Moens, who suspected that the seeds of another euphorbiaceous plant had been experimented with. But such was not the case; on the contrary, a number of well authenticated cases of poisoning by castor-oil seeds are on record, most of them from France, where the seeds are much in use for various purposes as a popular remedy. Chevallier mentions a case, with recovery, of a boy of seven or eight years, who had taken only one—at most, two seeds. Other cases of alarming intoxications are on record, after taking three or four seeds. In all European cases of poisoning, the number of seeds taken has rarely exceeded twenty. It should not be forgotten that the seeds are poisonous, both in their unripe and ripe state, and that the cakes remaining after the expression of the oil retain most of the acrid principle, and have often caused the death of horses and cattle.—Th. Husemann, in *Pharm. Zeit.*, No. 67.

On the Equipment of a Small Pharmaceutical Laboratory.

At the recent meeting of the British Pharmaceutical Council, Mr. G. F. Schacht (the president elect) presented a paper and drawings descriptive of some experiences in the equipment and working of a small pharmaceutical laboratory, which contained practical hints that may prove of value to our readers. Following a discussion of the question as to whether British pharmacists were in the habit of buying too many and making too few of the preparations they consume, he says:

"I long since came to the conclusion that it was best to make as many of the preparations we consumed as possible, and also that it was best to conduct operations of manufacture away from the interruptions of the shop."

. . . .

"The size of our firm's laboratory is 10½ feet by 13 feet, and it is 10 feet high. Its erection absorbed the last available bit of our back yard. We would gladly have extended its area a few feet had it been possible, but, space being peremptorily limited, our only course was to try and turn such as we had to the best account.

"Light being fortunately obtainable from the roof, the whole of the wall-space, with the exception of 2½ feet by 7 feet for the door, became available for fittings."

Of the four drawings which accompanied the paper, "No. 1 represents the west wall, through which we enter by the door on the left. It is almost entirely occupied by a stove and drying closet. The former is 16 inches wide, 20 inches long, and 12 inches deep, and is enclosed by a portion of the square hood of zinc, the other part of which constitutes the drying closet. The latter is divided by a diaphragm of zinc from the portion immediately over the stove, but the flue of the stove passes just within the diaphragm, and serves to keep the closet at a good drying temperature. It is supplied with four trays, each measuring 20 inches square. The flue inclines from the top of the hood to the main chimney in the corner; a large outer pipe accompanies it, and serves to convey to the chimney any steam or vapor that may be produced within in the stove-chamber or the drying closet, the heat produced by the flue, which passes through its centre, causing a good draught.

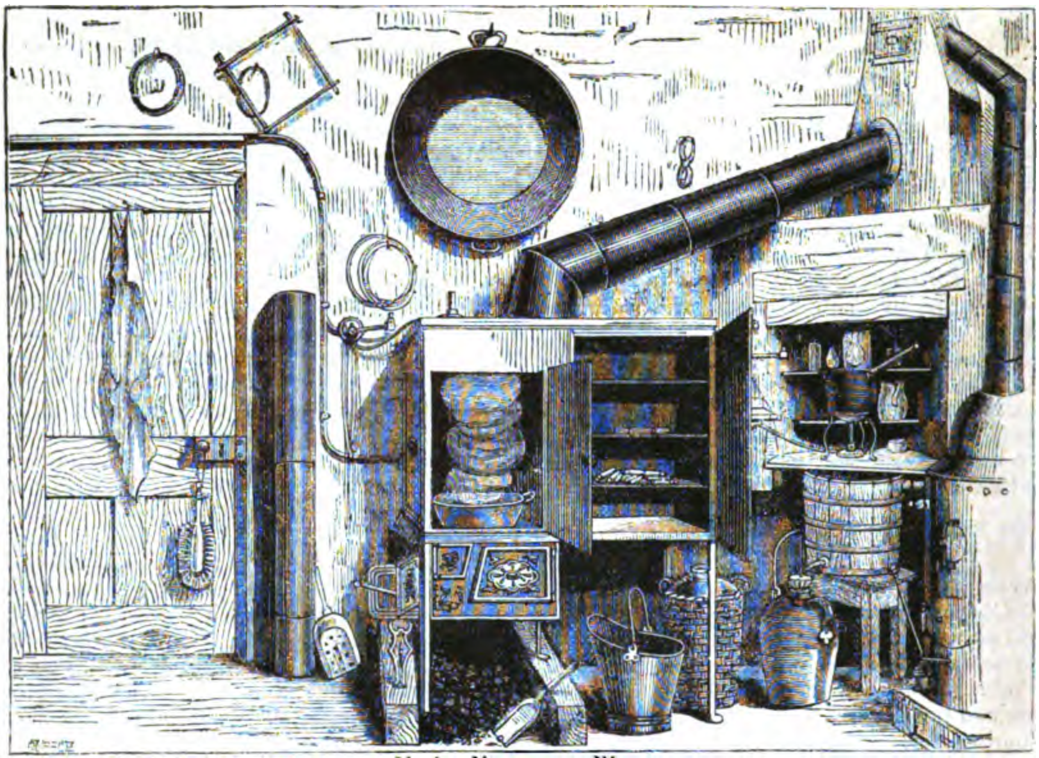
"The large pipe at the side of the door is a ventilating shaft, and the space immediately under the stove is for fuel. A small desk for the laboratory book and the diary stand against the wall at the right of the closet.

"In No. 2 (west wall) we see the main chimney, beneath which, and communicating with which, is the fume-chamber. This, for the sake of getting a little greater depth, is placed diagonally to the two walls, and measures about 2½ feet in height and width, and is 1½ foot deep. Its floor and two shelves are of slate, and the walls are cemented. Beneath this is a worm-tub, diameter 16 inches, height 15 inches, for the condensation of superfluous steam. The boiler of iron is immediately to the right; its diameter is 15 inches and its height 3½ feet. It holds about 8 gallons, and is fitted with a pipe connected with a main. It is equipped with the usual appurtenances: fire-box, safety-valve, pressure-gauge, etc., and is supposed to be equal to a pressure of 100 lbs. to the inch and more. The steam-pipe, passing off to the right, is supplied with sundry cocks. When all of these are closed, and the fire duly burning, the pressure within of course accumulates. If the cock at the back be opened, the steam passes into the jacketed apparatus which stands next. This consists of an enamelled iron pan or basin, of 10 gallons capacity, jacketed with iron, all of sufficient strength to stand a pressure of 30 to 40 lbs. to the square inch. Its outside measurement, exclusive of a 3-inch rim, is as follows: diameter 22 inches, depth 22½ inches, and it is held in its required position by an iron tripod. The jacket is provided with a safety-valve that blows off at about 20 lbs. pressure, and at the bottom a pipe and stopcock communicate through the jacket with the pan, through which the contents may be drawn off.

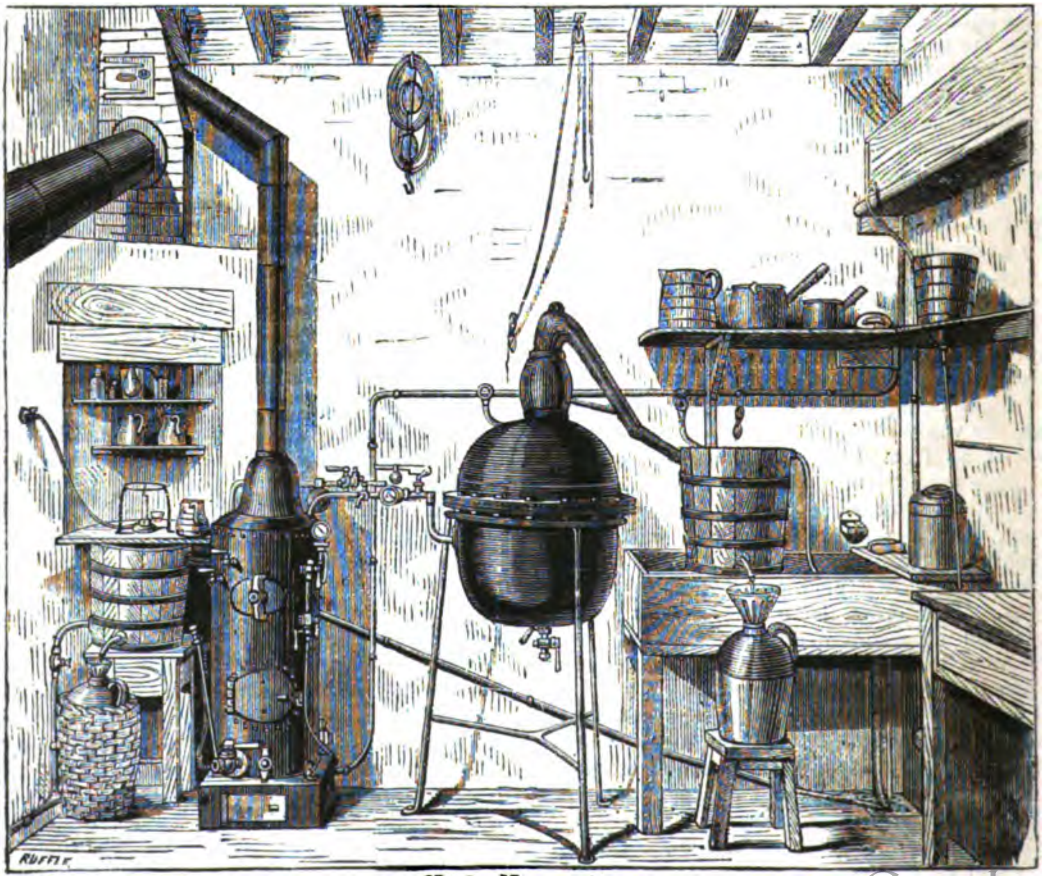
"This pan or basin is converted into a still by lowering upon its rim the head and securing the joint with a little luting; the swan-necked extremity of the head passes into a condenser temporarily placed over the sink. The arrangement is convenient for the recovery of spirit, etc. It will be noticed that the steam-pipe is further provided with two cocks opening to the front. From these, by means of good elastic tubing, steam of moderate pressure can be conveyed to any separate piece of apparatus, as we shall presently see.

"On the extreme right is a sink, 3 feet 6 inches by 2 feet. Water is introduced to the laboratory near the floor upon the west wall, and passes along the north wall over the sink to a small reservoir near the top of the east wall, and the pipe is supplied with taps at convenient spots.

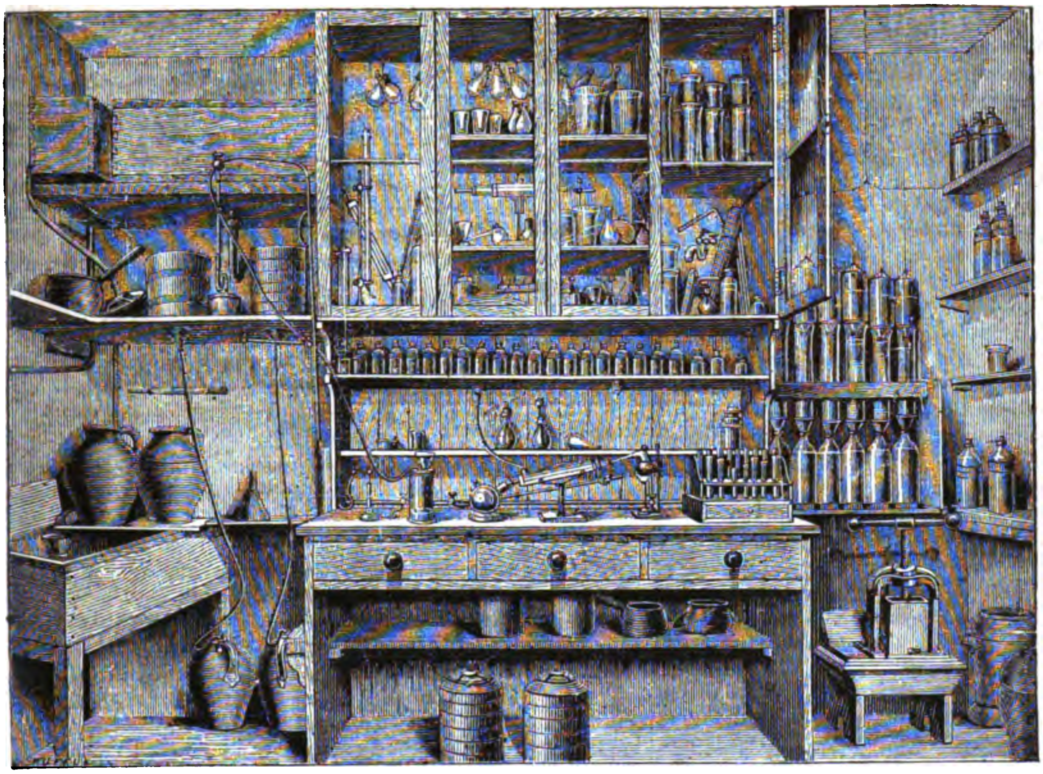
"No. 3 is the east side, and is mainly occupied with a deal counter, some drawers, and shelves enclosed in glass. A gas-pipe with two taps runs



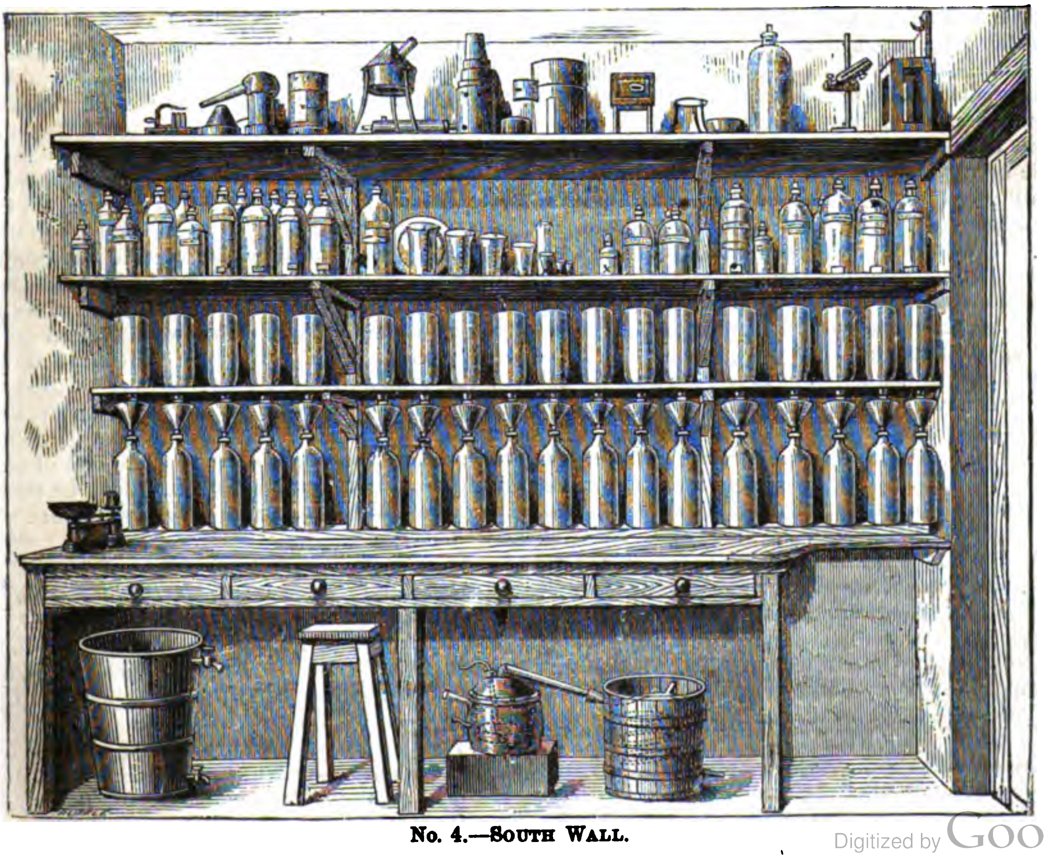
No. 1.—North-west Wall.



No. 2.—North Wall.



No. 3.—East Wall.



No. 4.—South Wall.

along the back edge of the counter, and a water-pipe, also with two taps, from the reservoir is conveyed along the front of the second shelf. Further, a waste-pipe, also provided with two taps, passes along the wall and inclines downward as it approaches the sink on the left; a Liebig condenser can thus be kept in continuous and cleanly operation.

"By the side of the rack of shelves on the left is placed one of Mr. Fletcher's arrangements for producing an air-blast for blow-pipe—it can also be applied as an aspirator. Still further to the left and in part over the sink are placed two of my own filters, holding two gallons each, for which we have very nearly constant employment.

"On the right of the shelves is a rack for six displacement-tubes with their accompanying receivers and reservoirs, and beneath them is a small press.

"Along the south wall (No. 4) runs a counter and a series of shelves. They are fitted for purposes somewhat special, perhaps, to our own particular business, and might be replaced by anything thought to be more required.

"Among the appliances here stowed away till required is the one employed in the preparation of distilled medicated waters. For this the two spare steam taps already mentioned have to be employed. The ingredients are placed upon a colander within the small still, the body of which is immersed into a vessel that acts as a jacket to it. Steam is now introduced into this jacket, and when the whole is well heated to boiling-point, the other tap is opened and steam is passed into the still below the colander. It then traverses the ingredients and passes out for condensation in the usual way, carrying with it the volatile constituents of the ingredients. I think distilled waters made by this method are more delicate in flavor than if prepared by any other plan. The size of this apparatus is only that of a large saucepan, but it is sufficient for the preparation of one gallon of any pharmacopœial water.

"One piece of apparatus more finds room in this large laboratory—it is a grinding mill. The wall space being all absorbed, a stout stand was made for it, and when not in use for holding this mill, it is covered with a top and converted into a table. It stands in the centre of the laboratory. The large stone and iron mortars are in an adjoining wareroom, and are brought in when required.

"I may further state that the floor of the laboratory is of Portland cement, the walls of brick faced with cement, and the roof is of open rafters, boarded and covered with zinc. The roof contains a fan-light [sky-light?] 4 feet square, capable of being opened at both sides for ventilation.

"Now, with regard to the cost. I find the building cost $223; the carpenter's, plumber's, and gasfitter's work for the internal fitting amounted to $172; the boiler cost $93; the jacketed pan-head and worm-tub, $87; the worm-tub under the fume-chamber, $18; the stove and drying closet, $37; the mill, $10; the apparatus for distilling medicated waters, $12; the blow-pipe and accessories, $4.64; sundry fittings, $32—making a total of £150 [or $696].

"The expense of working is very small. I burn nothing but coke in either the boiler or the stove, and I can keep them both going for a whole day with a consumption of less than a half hundred-weight of coke, which, in my neighborhood, means about 5d. worth of fuel.

"Thus, at a cost for fire of 3d., I can supply 16 gallons of distilled water; or, supposing other wants to be more urgent, I can, for the same amount draw, say, 1 gallon of cinnamon water, 1 gallon of dill water, make a batch of 50 lbs. of syrup, and still have 3 or 4 gallons of distilled water as a by-product. To the many other purposes to which these appliances can be turned I cannot now refer, but I am sure they offer opportunities for doing many things with great convenience, and as well as the intelligence of the operator chooses.

"I hope that all who see and hear this communication will be good enough to remember that it is addressed only to the average pharmacist. The 'traditional' houses have long since supplied themselves with all that is good, and have not allowed the thought of cost to enter into the question. They are far past the necessity of any hint from me. But every house now 'traditional' had its beginning, and my chief purpose is to show at how little risk this early step in progress may be made."

In the discussion which followed the reading of the paper Mr. Greenish said that in his opinion a disadvantage of the drying cupboard described by Mr. Schacht was that, if the stove or fire was not always in operation, the drying process went on irregularly. Distilled water was always a difficulty with pharmacists, and he never could get any kind of apparatus which would give him the quantity required until he made an arrangement in connection with his kitchen boiler, by means of which he now had more than he could use. He had a close range in the kitchen, with a wrought-iron boiler, from which a 1½-inch pipe passed upward and on to the chimney-piece, where it was divided into two ¾-inch pipes; one passed into the area and had a valve upon it, and the other into the laboratory, where it terminated in a large coil of block tin, placed in a tank of galvanized iron to form a condenser.—From *Pharm. Jour. and Trans.*

Erythroxylon Coca.

The Boston Medical and Surgical Journal recently contained an article on Coca, by G. Archie Stockwell, M.D., which presents some interesting facts in relation to the production and uses of this drug, and especially its therapeutical properties. We quote only a portion:

"Like cinchona, the peculiar powers of coca have been introduced to the notice of the Caucasian by the aboriginal inhabitants of the country to which it is indigenous. No historical records inform us when it was introduced to their notice, or who first discovered the hidden properties of its leaves. When the empire of Atahualpa was overthrown by the rapacious Pizarro, coca was as well known to the Peruvians as at the present day, and played an important part in their religion, being used in all public ceremonies as an offering to the sun-god.

"Although found in a wild state, like most other shrubs it is enhanced in value by cultivation, and hence none but the carefully nurtured domesticated variety finds its way to market. The sultry valleys of the eastern slopes of the Andes are most favorable to its growth, and it is here that a most systematic method of cultivation is adopted, the plant being raised from the seed.

"When the young shoots have attained a height of about fifteen inches they are transplanted in rows of a foot or more apart; when full grown they rarely exceed sixty-four or seventy inches in height. As it thrives best in damp situations, sheltered from the sun, it is customary, when such localities are not available, to plant maize between the rows because of its rapid growth, its leaves soon furnishing the required shelter. Certain species of palms are used for the same purpose. If no rain falls, the shrublets are subjected to copious and repeated drenchings.

"Like the coffee-tree, coca has a lustrous green foliage with white blossoms which ripen into small red, or rather scarlet berries. When the shrub has attained an age of eighteen or twenty months the foliage is stripped for the first time, the leaves now presenting an appearance not unlike those of the tea plant, being oval, pointed, and two or two and a half inches in length, with half that breadth at the widest part, and furnished with short, delicate foot-stalks; unlike those of the tea shrub, they are not dentate, and may be readily distinguished by a curved line running from base to apex upon either side of the midrib. The foliage is known to be ripe for plucking when the leaves become sufficiently brittle to break upon bending. After stripping, the leaves are spread out to dry upon woollen blankets in the sun, great care being taken to prevent absorption of moisture, which is known by the leaf acquiring a brown tinge; when properly cured it retains a pale green color. When the curing is completed the coca is packed in bundles or sacks of an arroba (twenty-five pounds) each, and carefully covered with dry sand until desired for the market. Coca never produces a depressing action, except as the result of an overdose of small quantities so frequently beneficial.

. . . .

"Tschudi cites as examples: several Indians who, never allowing a day to pass without at least three coceadas, attained the truly patriach age of one hundred and thirty years. As the ordinary food of the native Peruvians consists almost exclusively of roasted maize, barley, or seeds of the quinoa, which are eaten without any addition, they suffer with frequent and obstinate obstructions and derangements of the digestive system, which are entirely obviated by the use of coca. From the time the native becomes a coquero the troubles cease, never to recur, except with the abandonment of the habit.

"In moderate doses coca causes increased arterial activity, stimulates the alimentary secretions and peristaltic actions, diminishes weariness, strengthens the pulse, calms nervous excitement, retards waste, facilitates repair, alleviates spasms, and increases mental activity; in fact, it is an economizer of vital energy, and an effective aid to nutrition. It invariably contributes to mental cheerfulness, and withal not unfrequently causes unequivocal aphrodisia.

"Although one cannot look upon coca as a food, it will be found second only to alcohol in its food-replacing power; for this reason it will undoubtedly prove of value in low forms of fever.

"In large doses it has a decided action upon the kidneys, producing also watery stools, and, when long continued, gives to both urine and fæces a highly offensive odor, and renders the latter so acid as almost to destroy all vegetation with which they may come in contact; it also renders other excretions, as those of the lungs and skin, offensive. In these large doses it does not seem to affect the visual organs, as the pupils will be found freely contractible on the approach of light, and unless the doses are very heavy the eye presents an expression of combined merriment and cunning. Hunger seems never to be induced, but rather the contrary; yet, if the patient be coaxed to partake of food set before him, he eats voraciously.

"Of the physiological and therapeutical action of coca there is much to be discovered. It has been lauded as a hypnotic, yet its uncertainty of action will prevent its ever superseding the many other drugs of far greater value that we possess. It is, however, both anodyne and antispasmodic, exerting special influence upon the brain and spinal cord, and from its action upon the pneumogastric it will undoubtedly prove of benefit in certain forms of asthma. Its antispasmodic action has been vouched for by numerous South Americans. It is used by the natives to promote uterine contractions. Where inertia has supervened, I am told by Spanish-American physicians that its effect is both speedy and certain. In melancholia, or where nervous depression exists, its action in promoting cheerfulness is marked, and its influence upon the digestive functions, before noticed, will doubtless cause coca to be prescribed for many of the diseases of so-called dyspeptic character, and those irregularities arising from non-assimilation of food.

"It is said that certain of the Bolivian Indians inherit from their ancestors a mode of preparing and administering this drug so as to produce a cataleptic state so profound as to simulate death beyond detection, from which the patient may be aroused after the lapse of a few hours without serious results. I believe a mixture of cannabis indica, opium, and certain other narcotics is used for the same purpose by the initiated among Orientals.

"Coca will produce sleep oftentimes when opium has failed, if given in repeated small doses for a little time before retiring to rest, in order to allow the preliminary stage of excitement to pass off; but, as a rule, it is inferior to the opiates, its action being extremely variable.

"For the last few years it has been fashionable to claim for every new drug a decided antiperiodic action, vaunting for it all the powers of quinia, and coca has not escaped. Administered in conjunction with quinia, it will, I doubt not, like opium, oftentimes prove a valuable adjunct. Give quinine to a confirmed coquero, at the same time depriving him of his solace, and you will frequently be disappointed in its results. Restore him his coca, and the action of the salt will be both speedy and certain. I have observed like results when prescribing for consumers of tobacco.

"From the action of coca as observed, the writer would give it to a patient suffering from cholera, with the expectation of happy results; its action is rapid, and vomiting and cramps would, I think, speedily yield to its influence. Larabie, Williams, and other travellers, have experienced almost instantaneous relief from coca when suffering from cholera morbus. Dr. Carvallo informs me that he has observed similar results from an infusion, and has known even the chewing of the leaf to act favorably. I have witnessed the same effects myself. It would not be at all surprising if it were proven that the coca caused a marked increase of the biliary secretions. I should also expect marked results from it in congestive chills, and particularly with flannels wet with ammonia spirits in which quinine has been dissolved to saturation, applied to the abdomen, as practised in Central America. But it is in hypochondriacal diseases that we may look for the greatest benefit from coca.

"I trust that the profession will thoroughly examine into the merits and demerits of the article, and give the full negative results of their investigations. I say negative, for that is the evidence demanded at the present day. We are overrun with positive evidence, all virtues being ascribed to all remedies to such an extent that we become lost in seeking information. What we now need to know is what medicines will not do.

"It will probably be found that the dose required for our climate will be much larger than that demanded in Peru. The best mode of administering is in the form of an infusion, the dose being about two drachms. The greatest drawback to its use is the liability to gather moisture, which renders it worthless. The fluid extract I would have but little faith in, for obvious reasons. If an extract be made of Erythroxylon coca one pound, rectified spirits four pints, prepared by maceration for seven days, pressing out the tincture and evaporating to a proper consistence, I think it would be satisfactory. The dose of such an extract should be one-fourth of a grain to two grains or more."

Extraction of Quinamia from Red Bark.

THE alkaloid quinamia was discovered by Hesse in 1872, in the bark of *Cinchona succirubra* cultivated at Darjeeling in British Sikkim. It contains one molecule of water more than cinchonia or cinchonidia, and differs from quinia and quinidia by having two more atoms of hydrogen.* According to Dr. E. de Vrij (*L'Union Pharm.*, 1877, 204), it is best prepared in the following manner: One kilo of red bark in powder is very intimately and carefully mixed with a milk of lime made of 250 gm. of lime and 500 gm. of water. The temperature of the mixture increases sensibly, owing to the oxidation of the cincho-tannic acid by the air and its combination with lime. It is stirred up occasionally during the succeeding 24 hours, so as to promote the conversion of the cincho-tannic acid into cinchona-red. At the end of this time the mixture is dried in a water-bath, and afterwards treated with 10 kilos of 95% alcohol, which is raised to boiling for a few moments, and then allowed to cool. It is now introduced into a long cylindrical percolator, and when the liquid has drained off, the residuary mass is completely exhausted by alcohol.

To the united alcoholic liquids enough sulphuric acid is added to render them decidedly acid. During the next 21 hours a quantity of calcium sulphate, formed by the decomposition of calcium kinate and quinovate, is deposited. On the following day the solution is filtered and distilled, until it has been reduced to 500 or 600 gm. It is then transferred to a capsule, the remainder of the alcohol evaporated off on a water-bath, keeping up the bulk by the addition of water, and the whole is finally made up to weigh 2,000 gm. by the addition of more water. This is saturated at a boiling temperature with dilute soda solution, and as soon as it is faintly alkaline 40 gm. of sodium and potassium tartrate are added. This causes the formation of a very abundant, almost crystalline precipitate of the tartrates of quinia and cinchonidia, which are but little soluble in water. This precipitate is thrown on a filter and washed; the filtrate and the washings are evaporated to 250 gm., and treated with 500 c.c. of ether in two separate portions. Cinchonia is thereby left behind.

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* The formulæ of the 5 cinchona alkaloids are:

Cinchonia (Cinch.)	$C_{20}H_{24}N_2O$.
Cinchonidia (Cinchd.)	$C_{20}H_{24}N_2O$.
Quinia (Qu.)	$C_{20}H_{24}N_2O_2$.
Quinidia (Qud.)	$C_{20}H_{24}N_2O_2$.
Quinamia (Qum. +)	$C_{20}H_{26}N_2O_2$.

Flückiger summarizes the principal properties of these 5 cinchona alkaloids as follows:

1.	*Hydrated crystals* are formed by	: Qu., Qud.
	No hydrated crystals "	: Cinch., Cinchd., Qum.
2.	*Abundantly* soluble in *ether*	: Qu., Qud., Qum.
	Sparingly soluble in *ether*	: Cinchd.
	Almost insoluble in *ether*	: Cinch.
3.	*Laevogyre* solutions afforded by	: Qu., Cinchd.
	Dextrogyre " "	: Cinch., Qud., Qum.
4.	*Thalleioquin* is formed by	: Qu., Qud.
	No thalleioquin "	: Cinch., Cinchd., Qum.
5.	*Fluorescent* are the solutions of	: Qu., Qud.
	Not fluorescent " "	: Cinch., Cinchd., Qum.

The ethereal solution is distilled and the residue contains the *quinamia*, amorphous alkaloid, and a little cinchonia dissolved by the ether. The mixture is treated, first in the cold, then by heat, with about 60 gm. of diluted alcohol (equal parts of water and 95% alcohol), whereby all but the cinchonia is dissolved. The liquid, on cooling, deposits the quinamia in long needles, resembling quinia sulphate. Should some of the amorphous alkaloid begin to be deposited at the same time, the further addition of a little alcohol will prevent and remedy this.

Quinamia is distinguished particularly by the following two reactions:

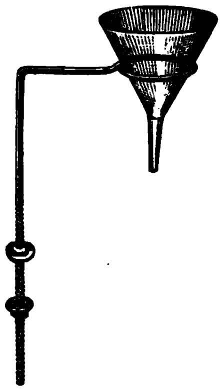
1. The chloroplatinate of quinamia is very soluble in water, so that only very concentrated solutions of the alkaloid afford a precipitate with platinic chloride.

2. Chloride of gold precipitates quinamia, but the compound is rapidly decomposed or reduced, and the liquid assumes a purple-red color.

Substitutes for Quinia.

PROF. THEO. HUSEMANN, in the course of a long article, in which he discusses the relative value of those remedies which have at various times been proposed as substitutes for quinia, draws attention to an alkaloid, which alone can be regarded as a rival of quinia, standing in effectiveness between it and the other cinchona alkaloids, and which has fallen into undeserved oblivion. This alkaloid is *Bebeeria* (or Bibiria, according to Binz), obtained from bebeeru-bark, which is also used as dye-wood, and is derived from *Nectandra Rodiæi* Schomburgh, a tree belonging to the natural order Lauraceæ, and native of Guiana.* From the investigations of Binz and Conzen, it appears that the physiological effect of bibeeria is identical with that of quinia. Both are equally effective in arresting or preventing putrefaction and fermentation, as well as in destroying the white blood-corpuscles. Flückiger, a few years ago, found that three hitherto dissociated alkaloids, namely, bebeerine, buxine, and pelosine, were probably identical. The antipyretic effects of *buxine* have, indeed, already been pointed out by various Italian physicians, chiefly Dr. Vitali, of Malegnano. *Pelosine* is an alkaloid contained in *Cissampelos Pareiræ*, and *Chondodendron tomentosum;* its therapeutic properties, however, are as yet undetermined. Supposing, then, that those three alkaloids are identical, it would be an easy matter to supply large quantities of the alkaloid, by preparing it from some species of Buxus, perhaps *B. sempervirens*, although the presence of various other, and some of them highly poisonous principles, would make its preparation, except on the large scale, somewhat troublesome. Messrs. T. & H. Smith, of London and Edinburgh, have informed Dr. Husemann that about 50 tons, or about 50,000 kilos of bebeeru or greenheart bark, are annually brought to the London market,* and that a large demand would undoubtedly produce a more abundant supply.—*Pharm. Handelsblatt*, Nos. 95, 96.

A Convenient Filter-Stand.



A CORRESPONDENT sends us a description of a convenient filter-stand which he has for some time had in his laboratory, and finds to be practically useful. A $\frac{3}{8}$-inch iron rod four feet in length is bent at its middle to a right angle. One end of the rod is made into a ring to receive the funnel, care being taken to have the ring at a sufficient distance from the angle to accommodate the receiving vessel. A thread is cut on about a foot of the other end of the rod, and furnished with two nuts and a couple of washers. Now, choosing a portion of the counter where filtration is to be done, a hole is to be bored through it large enough to admit the passage of the rod. The latter is then fixed in place by adjusting a nut above and another below the counter, a washer being interposed between each nut and the wood. It is easy to fix the rod at any convenient height or remove it altogether. A half-dozen of these stands cost our correspondent only a couple of dollars.

Lead-Poisoning.

THE *Boston Medical and Surgical Journal* publishes a graduation thesis by M. H. Richardson, M.D., of exceptional excellence, on the above subject, based upon personal observations in the white-lead works located at Salem, Massachusetts. Following a description of the process of manufacturing lead carbonate, a synopsis is given of the condition of the seventy-five workmen examined, which presents some interesting evidence of the varying susceptibilities of different individuals to the action of lead.

"The general appearance of the men," he says, "is not good. The faces are sallow and more or less worn. The sclerotic coat is yellowish. Their motions are far from energetic, and in some cases eccentric and unsteady. One would say immediately, I think, that the general appearance is much below that of the average workman.

(1.) The first man examined has worked in all parts of the mill for thirteen years. His only trouble is rheumatism. The gums show a distinct blue line along the border.

(2.) After seven years in the corroding-rooms, has no symptoms excepting the blue line.

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* See *U. S. Disp.*, 14th ed., p. 1102.

* Flückiger & Hanbury (*Pharmacographia*, p. 482) state that "the supplies are very uncertain, and the drug is scarcely to be found in the market."

(3.) After grinding lead with oil, has only the blue line.

(4.) After working in all parts of the mill for six months, has had violent colic and great constipation. Blue line marked.

(5.) Reports only blue line after four years' work.

(6.) The machinist, after repairing in the drying-room a few hours a day for ten days, was affected with colic and constipation. Has great habitual constipation. Blue line very marked.

(7.) After seven years, only blue line.

(8.) After twelve years, has only blue line and fungous, bleeding gums, with occasional colic and obstinate constipation.

(9.) After six years in corroding-room, has only blue line.

(10.) Has worked in all parts of the mill for fifteen years without showing a trace of blue line, or any other symptom whatever. Very neat.

(11.) After three years, only blue line.

(12.) After four years, nothing.

(13.) Blue line, rheumatic pains, and fainting fits. This was a remarkably neat man.

(14.) After four years, no trace of poisoning.

(15.) After four years, entirely used up. Had to leave all work.

(16.) After one year's work, completely crippled, having paralysis of the extensors, aphonia, and general debility.

(17.) The carpenter, after repairing ten days in the drying-room, had severe colic, obstinate constipation, and persistent blue line.

(18–75.) Of the rest of the seventy-five men examined, all had a distinct blue line about the gums, and, with one or two exceptions, habitual constipation. There was nothing further than this to suggest the presence of lead.

"In addition to the above cases, three of the former employees had suffered with difficulty in speaking, three with amaurosis, several with cerebral troubles, and many with paralysis. The superintendent had observed that the most frequent complaint had been of swollen joints and aching bones. In the numerous cases of paralysis which he has seen during many years' service at these works, he has noticed that the wrists have become much swollen before paralysis of the extensors. A curious tradition exists among them that they cannot drink alcoholic liquors and keep up with their work like laboring men in other manufactories. Several cases were told me of men who quickly succumbed to the influence of the lead after beginning the use of strong stimulants. The length of time that one can work surrounded by these poisonous exhalations is subject to immense variations. Some men have become paralyzed in less than a month; others exist for years."

As an illustration of this fact and as a typical case of chronic lead-poisoning, the writer narrates the case, which is famous among Salem lead-workers, of a man who for twenty-five years has been in the worst position the mill affords—that of shovelling the dry, powdered lead—and has seen forty-seven men leave the mill to die from the direct effects of the poison. The man was covered with the white lead, and was filthy in appearance, but symptoms of lead-poisoning had only come on two years before, at which time he had sold the cows he had formerly owned, and had given up the habit of drinking an abundance of milk. Later in the paper, the influence of the use of milk as a beverage in preventing poisoning in French lead-works is quoted, and it is stated that in this instance, from 1868 to 1871, no cases of colic occurred following the introduction of this practice in the former year.

In concluding the paper, the writer says, in regard to *prognosis:* "This would be favorable in all these professional cases could the workmen be removed from the mills. They obstinately refuse to make the slightest effort to avoid danger. Mouth-sponges are constantly on hand, sulphuric acid lemonade is continually urged upon them. Fine bath-rooms, fitted up nine years since by the Salem company, have been turned into store-rooms for want of patronage."

Dr. Richardson reports some experiments made by him to determine if the air of freshly-painted rooms could contain lead, as has been asserted, and a decidedly negative result was obtained.

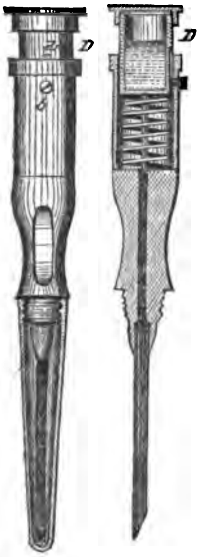
The Preparation of Suppositories containing Extracts.

Mr. Paul Petit proposes to facilitate the admixture of extracts to butter of cacao, in the preparation of suppositories, by the addition of a substance which is soluble in water as well as in fats, namely soap. He heats the extract in a capsule with a very small quantity of water, and adds a quantity of soap, containing an *animal oil*, equal to that of the extract taken. The mixture is then evaporated to a syrupy consistence. The butter of cacao being melted to just the point of fusion, the other mass is added, and the whole is assiduously stirred until it shows signs of solidification. It is then rapidly cast into moulds. With a little practice and care, very handsome and thoroughly homogeneous suppositories, in which the eye can detect no unmixed specks of extract, may thus be prepared.—*La Ruche Pharm.*, 1877, 67.

Influence of Wine Bottles on Wine.

It has recently been determined that wine may be injured through the glass of the bottles in which it is contained being too alkaline. According to analyses given by the *Revue Industrielle*, glass for wine bottles should yield, per 100 parts: silex 58.4, potash or soda 11.7, lime 18.6; clay and oxide of iron 11, other ingredients 0.3. Glass in bad bottles has been found to contain silex 52.4, potash or soda 4.4, lime 32.1, clay and iron 11.1. It seems that the wine suffers principally from excess of lime. Thus, in glass composed of silex 45, soda 15, lime 30, and clay 15, for example, the wine became thick and lost its aroma. The best bottle-glass contains from 18 to 20 parts of lime, and 59 to 60 parts of silex; the worst, 50 to 52 of silex, and 25 to 30 of lime.—*Scientific Amer.*

Vaccinating Instrument.



In this instrument, patented July 17th, by F. S. Brinkerhoff, of Auburn, N. Y. (Patent No. 193,067), a small trochar or hollow needle serves to puncture the skin, when pressure on the head of the instrument causes a little stylet to protrude, which, being charged with vaccine lymph, accomplishes the inoculation of the subject of the operation. The sliding receptacle D serves to hold a supply of lymph, and a screw cap protects the needle when the instrument is not in use.

Arsenic and Antimony in Vulcanized Rubber.

An article contained in No. 17 of the *Répertoire de Pharmacie*, by Mr. E. Filhol, again draws attention to the fact that much of the vulcanized rubber of the market—at least that made in Europe—contains arsenic, which may be readily extracted by means of hydrochloric acid. It may not be generally known that the golden sulphide of *antimony* is largely consumed for coloring vulcanized rubber. This is prepared specially for this purpose, both of a red and of an orange color, and preserves its tint even at a high temperature. Some time ago an inquiry was instituted whether dental vulcanite, colored by vermilion, was poisonous; and the result was, that it was declared innocuous.* It now remains to be seen whether any *dental vulcanite is colored by antimony sulphide*, and what constitutional effects it produces.

On Oil of Turpentine.

The variation in the statements of the different pharmacopœias regarding the solubility, boiling-point, and other properties of rectified oil of turpentine, induced Mr. K. Ledermann and Dr. R. Godeffroy, of Vienna, to subject the various kinds of the commercial pure oil to a careful examination. The results obtained with the American oil were as follows: It is a clear liquid of almost entirely neutral reaction; its spec. grav. is 0.8619, and it turns the plane of polarization to the right. One part of it requires for solution 56 parts of 70 per cent. alcohol, 20 parts of 80 per cent., or 12 parts of 85 per cent., or 5 parts of 90 per cent., or 3 parts of 92 per cent., or 2 parts of 95 per cent. alcohol.—*Zeit. d. Oester. Apoth. Ver.*

A New Falsification of Sulphate of Quinia.

Dr. Jaillard has discovered a new and altogether extraordinary sophistication of quinia sulphate, which occurs in the French market, and bears the labels of Pelletier, Delondre and Levaillant, so well imitated as to be undistinguishable from the genuine. The contents of the bottles present the usual appearance of quinia sulphate, but the chemical behavior is entirely different. The salt is very soluble in water, gives only a small precipitate with barium chloride, and strikes a purple color with ferric salts. It contains sufficient quinia to give the thalleioquin reaction and to show fluorescence. The adulterant is supposed to be potassium salicylate, crystallized from alcohol to give it the silky appearance of quinia sulphate.—*Jour. de Pharm. d'Anv.*, 1877, 207.

A New White Paint.

Native barytes, or barium sulphate, is mixed with pulverized stone coal and tar and exposed to an intense heat, so as to convert it into barium sulphide. The latter, being soluble, can be dissolved out, and to the clear solution is added a corresponding quantity of zinc chloride in solution, when zinc sulphide will be precipitated, while barium chloride remains in solution. To the solution of barium chloride is added white vitriol (zinc sulphate), when a precipitate of barium sulphate will be formed and zinc chloride left in solution, which latter can be filtered and again employed to precipitate the barium sulphide.

The two precipitates obtained as above, namely, zinc sulphide and barium sulphate, are well washed, mixed, dried, heated to a cherry red, then thrown into cold water, and finally ground in water and dried. The white pigment thus obtained covers well, and is well suited to mix with oil as a substitute for lead, especially where sulphur compounds exist or may be generated.

Detection of Water in Alcohol.

An exceedingly delicate reaction to ascertain the anhydrous character of absolute alcohol is given by Prof. Claus. If to a trace of anthrachinon* (not more than 0.001 gm.), and some sodium amalgam contained in a test-tube, an excess of perfectly anhydrous absolute alcohol is added, the formation of a dark green zone will be observed after a few minutes, at the point of contact of the amalgam and alcohol. This zone, on gentle shaking, imparts a magnificent green color to the whole liquid, but on brisk shaking, in presence of air, the color disappears. This may be repeated as long as there is any amalgam left. On the other hand, if the alcohol contains even the minutest trace of water, the liquid under the same circumstances assumes a red color, and the coloration may be repeated the oftener, the more water the alcohol contained. —*Ber. d. Deutsch Chem. Ges.*

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* See New Remedies for August last, p. 233.

* Anthrachinon, or oxanthracene, $C_{14}H_8O_2$, is produced by the oxidation of anthracene, $C_{14}H_{10}$, by means of nitric or chromic acid.

RECENT PAPERS.

American Journal of Pharmacy.

September. N. ROSENWASSER: "On Colchicum Seed." [It having been asserted that colchicum seeds could be exhausted without being ground, the author macerated 5,000 grains of unbroken seeds with dilute alcohol, in a warm place for ten days, washing them afterwards carefully with more menstruum. The resulting tincture yielded only five grains of colchicia, while the macerated seeds, after grinding and further exhaustion, yielded eleven grains more. It was found, after several trials, that by macerating the unbroken seeds, less than one-third of the total amount of colchicia present is extracted.]

ALPH. HERRERA: "On a New Process for the Preparation of Extracts without Heat." [The author proposes to use cold for the concentration of vegetable juices, or watery liquid extracts. He applies a freezing mixture in an apparatus resembling that used for making ice-cream (sorbétière), whereby the excess of water is converted into ice. The remaining dense extract, which is so well preserved that even the albumen is retained unaltered, after being separated from the ice, is exposed in thin layers to warm air or the heat of the sun, until of the proper consistence.]

H. M. WILDER: "Practical Notes." (See p. 317.)

Pharmaceutical Journal and Transactions. Nos. 374–378.

W. DYMOCK: "Notes on Indian Drugs." [*Sterculia urens;* local name Karai, Pandrook, Kavalee. The gum is called Karai gond, forms a thick jelly with water, and is used generally as a substitute for tragacanth.—*Hyoscyamus niger;* local, Khorasanee Ajwan. Cultivated for medicinal purposes in the government gardens at Hewra, near Poonah.—*Poa cynosurioides;* local name in Goa, Gramina. The root is used as a substitute for dog-grass by the Portuguese at Goa.—*Aplotaxis costus;* local, Puplate (in Bombay); Koot or Putchake (elsewhere). The root is extensively used as a perfume, and to protect clothes from moths; also as an aphrodisiac and vermifuge.—*Tephrosia purpurea;* local, Sarpankha. The whole plant, a common weed, is a bitter astringent.—*Lodicea Seychellarum;* local, Daryai, Naril. The kernel of the sea-cocoanut is in great repute among the Arabs and Indians as a strengthening medicine.]

ED. W. DAVY: "A new Method of Detecting Alcohol in Essential Oils." (See next number.)

D. B. DOTT: "Lactic Acid in Willow Bark." [A watery infusion of willow-bark is mixed with lime and boiled; the solution is evaporated and the residue exhausted with alcohol. The alcoholic solution, on evaporation, deposits the salicin in crystals, and the lime salt of the acid remains in solution. This is evaporated to dryness, redissolved in water, and oxalic acid, not in excess, is added. The filtrate is concentrated and extracted with ether, which removes the acid. This was recognized as *lactic acid.*

E. M. HOLMES: "Note on Rheum Officinale." (See p. 294.)

The Analyst. Nos. 16, 17.

DR. MUTER: "Estimation of Oleine in Fats."

W. E. PORTER: "The Examination of Hops." [The author finds that the resin is the only principle which is useful for brewing purposes, as it does not render beer turbid. The oil of hops the author finds to be readily converted into resin, both by age and by attempting its distillation. It has a sort of pennyroyal odor when fresh, but as it resinifies it approaches the odor of valerianic acid. The amount of *resin* in hops is the criterion of its value.]

Répertoire de Pharmacie. Nos. 15–17.

M. LATOUR: "The Bromhydrates of Cinchonia and Morphia." [*Bromhydrate of Cinchonia* (*neutral*), $C_{20}H_{24}N_2O, 2HBr=470$, is soluble in water at 15° C., in the proportion of 70 parts of the salt to 100 of water. 100 parts of alcohol of 90 per cent. dissolve 28.5 parts. It is best prepared by double decomposition between barium bromide and cinchonia sulphate.—*Basic Bromhydrate of Cinchonia*, $C_{20}H_{24}N_2O, HBr, H_2O=407$. 1 part is soluble in 33.5 parts of water at 15° C., in 19 parts of water at at 100° C., and in 3.63 parts of alcohol at 15° C.—*Bromhydrate of Morphia* may be prepared by double decomposition between sulphate of morphia and potassium bromide. It contains $C_{17}H_{19}NO_3, HBr, 3H_2O=420$. 1 part is soluble in 25 parts of water at 15° C.]

M. CAILLETET: "Determination of Citric and Tartaric Acids." (See next number.)

L'Union Pharmaceutique.

June. DANNECY: "Canada Balsam an Excipient for Pill-Masses." (See next number.)

E. DE VRIJ: "Extraction of Quinamia from Red Bark." (See page 300.)

IS. PIERRE: "Preparation of Alcohol from the Sugar contained in Beet-leaves." [It being known that the leaves of beets elaborate the sugar, it occurred to the author to utilize the remainder of the sugar contained in them for the manufacture of alcohol. He obtained from 158 kilos of fresh leaves, by expression, 34 to 35 litres of sap, which, on fermentation, yielded 275 c.c. (9½ fl. oz.) of 68% alcohol, and 135 c.c. of 8% alcohol.]

No. 8. MR. SÉE: "On Salicylates." [Among other salicylates, the author proposes the *salicylate of lithium*, which is probably more effective than the corresponding sodium salt, as it contains a relatively larger quantity of salicylic acid: 6 parts of the salt correspond to 5 parts of the acid.]

Journal de Pharmacie d'Anvers.

March. DEPAIRE: "Estimation of Urea." (See p. 292.)

A. BITERYST: "Oxalate of Iron." [Best made by dissolving 200 gms. of pure ferrous sulphate in 600 gms. of distilled water, to which a few drops of sulphuric acid have been added; then dissolving 180 gms. of purified oxalic acid in 1,800 gms. of distilled water, pouring the latter solution in the former, collecting the precipitate, washing and drying. Amount of ferrous oxalate produced, 125–130 gms.]

July. FR. CULOT: "Examination of Six Samples of Bismuth Subnitrate." [The author found all the samples examined to be contaminated with an ammoniacal compound, two of them adulterated with 18.2 per cent. and 14.5 per cent. respectively of calcium phosphate, and yielding 87, 68.9, 76, 69.5, 85 and 85 per cent. of bismuth oxide.]

G. BRUYLANTS: "Researches on Oil of Tansy." [The author's results are: Oil of tansy contains 1 per cent. of a hydrocarbon $C_{10}H_{16}$; a mixture of about 4.5 per cent. of an aldehyde isomeric with camphor, and having the formula $C_{10}H_{16}O$, with 1.5 per cent. of an alcohol of the composition $C_{10}H_{18}O$; and a mixture of two resins, one acid, the other neutral.]

J. ANNEESSENS: "On the Preservation of Powdered Ergot." [Recommending, in place of all other methods, to preserve the powdered ergot—or any other powder or drug liable to spoil—in "*desiccating bottles*," such as proposed by Mr. Cornélis of Antwerp, which are filled to two-thirds of their height with caustic lime. The success of this method is so decided, according to the author, that it throws all others into the shade.]

Archiv der Pharmacie.

May. E. JOHANSON: "Estimation of Cinchona Alkaloids." [The author has examined the process proposed by J. C. B. Moens, for separating all the alkaloids from cinchona bark, and comes to the conclusion that it is liable to so many errors as to become practically useless.]

July. ERNST SCHMIDT: "On some of the Constituents of Cubebs." [The author has repeated his analyses of the stearopten found in cubebs, and finds his former statements to be correct. The composition of this cubeb-camphor is $C_{16}H_{26}O$, or rather $C_{15}H_{24}$, H_2O, it being a hydrate of the essential oil of cubebs.]

Same: "On Bromoform." [There are two different specific gravities given in text-books: one by Loewig, namely, 2.130; and the other by Cahours, 2.900 at 12° C. The author has determined the spec. grav. of chemically pure bromoform, boiling at 149–150° C. (about 301° F.), and finds it to be 2.775 at 14.5° C.]

E. Holdermann: "On the Presence of Ammonia in Tartrates." [Reporting the presence of ammonia in minute quantities in tartrates, which are sold as "pure" in the market. Although not therapeutically objectionable, the ammonia sensibly interferes with the use of the salt in Fehling's solution.]

Th. Push: "Citrate of Sodium and Potassium." (See next number.)

De Farmaceut. 41–45.

Herman van Gelder: "On Tannin in Gentian Root." [The author refers, although not correctly, to the late discussions on the presence or absence of tannin in gentian root. Prof. Maisch published a paper in *Am. Journ. of Pharm.*, 1876, 117, 188, etc., in which he disproves its presence. J. Ville has lately examined the roots of *Gentiana Burseri* and *G. lutea*, and has arrived at the following conclusions: 1. Gentian root contains a constituent analogous to that found in other parts of plants which belong to a *class* of substances comprised under the general name of tannins (looistof, gerbstoff). 2. The bitter constituent, gentiopicrin, does not belong to this class. 3. The *tannin* of gentian is nothing else than the substance hitherto known as *gentianin*.]

Schweizerische Wochenschrift f. Pharmacie. Nos. 28–30.

Schacht: "On the Artificial Oil of Mustard of Commerce." [At a meeting of Berlin Apothecaries' Society, in May, Dr. Schacht controverts the statements made by E. Mylius (in *Arch. d. Pharm.*; see New Rem., vi., 175), that the commercial artificial oil of mustard is impure, and ascribes the results obtained by the latter to the fact that the oils examined by him did *not* represent the average quality obtainable in the market. Schacht found an oil of mustard, prepared by Kahlbaum, to have the spec. gr. 1.018, to boil at 147–148° C., and to be free from hydrocyanic acid or carbon disulphide.]

Pharmaceutische Zeitung. Nos. 57–70.

Dragendorff and Marquis: "On the Alkaloids of Delphinium" (from *Arch. f. exp. Path. u. Pharm.*). [The seeds of *Delphinium Staphisagria*, contain no less than 4 alkaloids: 1. *Delphinin*, $C_{22}H_{35}NO_6$, well crystallizable. 2. *Staphisagrin*, $C_{22}H_{33}NO_5$. 3. *Delphinoidin*. 4. *Delphisin*, which is only obtainable from quite fresh seeds.]

Same: "On the Active Principle of Cannabis Indica." [Commenting on the statement of Preobraschensky, that *Cannabis Indica* contained *nicotia*, the referee points out, that this will probably be found to be a mistake, as the therapeutic effects of cannabis are so totally different from those of tobacco. He suspects, in spite of Mr. Pr.'s assertions to the contrary, some contamination, either with tobacco, or with some other plant yielding a volatile alkaloid.]

Th. Husemann: "On Indian or Javanese Rhubarb." (See p. 293.)

Archiv der Pharmacie.

August. H. Werner: "On Rheum palmatum." [It appears highly probable that the officinal rhubarb is derived from at least two species of *Rheum*, namely, *palmatum*, L., and *officinale*, Baillon, although there may be still other species which furnish it. It certainly was *Rheum palmatum*, and not *R. officinale*, which Col. Przewalski found growing in Northern Thibet between 36° and 40° N. Lat. Doubts as to the derivation of rhubarb from the latter species have lately been also raised by Mr. Holmes. See p. 294.]

Pharmaceutische Centralhalle. Nos. 29–34.

R. Böttger: "Preparation of Platinum Black." (See next number.)

H. Hager: "On the Statement that Sugar is a Normal Constituent of Urine." [Dr. Pavy some time ago published an article—see New Rem., August, 1877, p. 239—in which he asserts that glucose is invariably a normal constituent of urine. Dr. Hager thinks that this statement should be modified, so as to refer exclusively to the urine of aged persons, where he also has found it; while it appears to be absent in the urine of healthy young persons.]

Zeitschrift d. Oesterreich. Apoth.-Vereins. Nos. 22–25.

K. Ledermann and R. Godeffroy: "On Oil of Turpentine and Oil of Juniper." [From a lengthy article on the various kinds of these oils found in commerce, we select an account of the solubility of the American Oil of Turpentine. See p. 303].

British Medical Journal.

Sept. 15. C. E. Payet: "Atropia as a Remedy for Opium-Poisoning." [Reports an experience with the remedy, and remarks the failure of atropia to remove the stupor though manifesting its full influence on the iris. He expresses his belief that it is useless as an antidote, after the stupor has become so profound as to prevent the patient standing.]

A. Wahltuch: "Cases of Nervous Asthma Treated with Arsenical Inhalations and Galvanization of the Pneumogastric Nerves." [Reports seven cases, five of which were permanently cured, and two were benefited. The following were the arsenical preparations used: Arseniate of soda ($\frac{1}{6}$ to $\frac{1}{2}$ gr.); arseniate of potassa (ʒ ss. to ʒ i); arseniate of ammonia ($\frac{1}{4}$ to $\frac{1}{2}$ gr.).]

Sept. 22. Arthur W. Bateman: "Boracic Acid Ointment." [Gives his endorsement of the value of the ointment when used as a dressing for wounds. Its smooth, waxy consistency prevents its adhering to the edges of the wound or the intermediate clot, and when wounds do not require poulticing it is a better application, he thinks, than a water-dressing. An additional advantage over the latter is the lessened frequency with which it needs to be changed.]

Boston Medical and Surgical Journal.

Sept. 6. P. E. Bishop: "Extraordinary Tolerance of a Poisonous Dose of Chloral Hydrate." [165 grains were taken, causing profound sleep, accompanied by profuse diaphoresis, a temperature of 99° Fahr., and lasting 36 hours. The patient, on awakening, was entirely relieved of the delirium tremens from alcohol, which he was suffering from when the dose was taken.]

Nitrate of Furfurine is said to have been discovered by the late Professor Fownes. Its composition is expressed by the symbol $C_{30}H_{12}N_2O_6$. It is slightly soluble in cold, but more soluble in boiling water. When wheat-bran is acted upon by diluted sulphuric acid in a chamber through which a current of steam is passed, a volatile oily body is produced called furfurol. Furfurol in contact with solution of ammonia becomes converted into furfuramide. Furfuramide acted upon by caustic potash is slowly dissolved, and the solution, on cooling, deposits small, white, needle-like crystals; these crystals are furfurine. Furfurine is a powerful organic base, and forms with acids beautifully crystallizable salts.

The medicinal properties of this substance are uncertain, but it has been employed in doses of two to five grains, in neuralgia. It has been used also, in the form of a nitrate, which is presumed to have tonic properties.—Henry Brown in the *British Medical Journal*.

Dr. Göppert, who has been attached to the University of Breslau for fifty years, as teacher and professor of materia medica and botany, was publicly presented on July 30th, with an elaborately decorated album containing five hundred and fifty-four photographic portraits of his pupils, colleagues, and friends.

ORIGINAL COMMUNICATIONS.

CONTRIBUTIONS FROM THE SCHOOL OF PHARMACY, UNIVERSITY OF MICHIGAN.

4. Analysis of Twenty Samples of White Lead.

BY ALBERT A. HALLOCK, PH.C.

TEN samples were dry, and ten were in oil. That sold in the dry state was much purer than the oil paint. The adulterants found were calcium carbonate (chalk), barium carbonate (Witherite), barium sulphate (barytes, or heavy spar), and traces of silica and extraneous matter. Several of the samples contained zinc oxide; but as zinc white is as durable and valuable a paint as white lead, it was not called an adulteration. For places where sulphuretted gases are evolved, zinc paints are preferable, because they do not blacken as lead paints do. The other adulterations are very injurious, causing paints to "chalk off" after a few months' exposure.

The following were the methods of analysis:

One gramme of the dry paint was boiled with dilute nitric acid, and any insoluble residue (barium sulphate or silica) removed by filtration. This insoluble residue was afterwards fused with sodium carbonate, and estimated quantitatively.

The filtrate was concentrated to expel excess of nitric acid, diluted with water, and treated with washed hydrosulphuric acid gas to precipitate lead. This precipitate was dissolved in nitric acid and the lead estimated as sulphate. The filtrate, after removal of lead sulphide, was made alkaline with ammonia, and again treated with hydrosulphuric acid gas. If zinc was present, a white precipitate of zinc sulphide was formed. This was dissolved in dilute hydrochloric acid, the zinc precipitated by sodium carbonate, the precipitate well washed, dried, ignited, and the zinc weighed as oxide. The filtrate, after removal of zinc, was treated for barium and calcium. The barium was weighed as sulphate, and the calcium as carbonate.

The same methods were employed in analyzing paints in oils, except that oils were first removed. The following was found, after trial of several other methods, to be the best. To three grammes of the moist paint, in a large test-tube, add a mixture of one volume ordinary ether and two volumes of alcohol. Agitate briskly several times, allow the paint to settle, and decant the liquid into an evaporating dish. Repeat until all the oil is removed. This may be determined by adding water to the paint in the test-tube and agitating. If oil is present, the paint sticks to the sides of the tube; if not, it settles easily.

The white lead, after removal of the oil, was well dried, and one gramme taken for analysis.

Owing to the variable and uncertain composition of lead carbonate, the results have all been stated in per cent. of normal lead carbonate ($PbCO_3$). The following are the results:

Analysis of Ten Samples of Dry White Lead.

No.	Lead Carbonate.	Zinc Oxide.	Calcium Carb.	Barium Carb.	Barium Sulph.	Silica, etc.
1	99.5					
2	86.0		11.3		1.5	.3
3	99.6					.3
4	88.8		2.		8.8	.2
5	89.1				9.9	.4
6	79.0			19.8		1.0
7	97.1	1.70			.5	.3
8	47.2		4.4		39.6	
9	30.2	36.3	7.8	26.1		.3
10	50.0		.4	8.2	39.6	.4

Analysis of Ten Samples of White Lead Ground in Oil.

No.	Lead Carbonate.	Zinc Oxide.	Calcium Carb.	Barium Carb.	Barium Sulph.	Silica, etc.
1	39.4	16.			28.0	
2	50.1	19.	20.		5.2	.5
3	31.2	30.3			29.1	.4
4	99 4					.3
5	98.6				1.3	
6	99.2					
7		69.9		2.0	18.0	
8		31.0	26.8		35.6	
9	20.4	49.6		8.0	20.0	.7
10	99.5					

THE MEDICINAL CHLORINE-DERIVATIVES OF ALCOHOL.*

AMONG the chemicals which have been adopted into the list of medical agents, the chlorine-derivatives of alcohol occupy a very prominent place. Starting from the single chloroform, which came into use about 1831, their number has since then steadily increased, until there are now no less than about ten such compounds. Many of these are so closely allied in properties, that a sharp determination of boiling-point and specific gravity is necessary to distinguish them. In determining the boiling-point, it may be incidentally remarked, the thermometer must not dip into the liquid, but must be wholly immersed in the vapor of the boiling liquid, and the latter must be carefully distilled to dryness.

Since nearly all these bodies are at present obtained, as by-products in the preparation of chloral hydrate, we shall first describe the manufacture of the latter, as carried on at a large scale.

Chloral Hydrate. Into a series of 30 to 40 large glass carboys, each of which contains 108 to 144 pounds of 98 per cent. alcohol, a current of chlorine gas, washed and dried by sulphuric acid, is passed without intermission for twelve to fourteen days. In the beginning of the operation the action is sufficiently energetic to necessitate the cooling of the carboys, while towards the end they must be warmed to 60 and 75° C. (140 to 167° F.). As soon as the liquid in the carboys has reached a specific gravity of 1.400, the chlorination is interrupted, the chlorinated alcohol is transferred to copper stills lined with lead, and carefully boiled with an equal weight of sulphuric acid. This causes the elimination of large quantities of *ethyl chloride* gas (hydrochloric ether, C_2H_5Cl), hydrochloric acid, and a whole series of by-products, which are condensed. After a while, chloral passes over, which boils at 94° C. (201.2° F.). A rise of the thermometer to 100° C. (212° F.), indicates that all chloral has passed over, and the distillation is stopped. The distilled chloral, a colorless liquid, is neutralized with chalk, again distilled, the distillate brought into contact with just sufficient water to form the solid hydrate, and rapidly cooled off. The mass thereby congeals, and forms the product known as "chloral hydrate in crusts." More recently this is being displaced by chloral hydrate crystallized from boiling chloroform, which forms brilliant pellucid rhomboëdra, and is much more capable of resisting change by exposure to air, than the ordinary kind.

Soon after the discovery of chloral, a number of works, on the largest scale, were erected for its preparation; but competition soon lowered the market price of the product to such a degree that it became a question of life and existence with some manufacturers to find use for the large quantity of apparent useless by-products obtained. In this way Kraemer, of Berlin, who was supplied with material by Schering's factory, discovered in these accompanying products large quantities of *Monochlorinated ethyl chloride*, or *Dichlorethane* ($C_2H_4Cl_2$, æthyliden-chloride), and afterwards, together with Pinner, he discovered a new chloral, which was named *croton-chloral*, and which was examined therapeutically by Liebreich, who proved it to be a valuable agent. Kraemer also believed to have recognized in the mixture small quantities of *ethene chloride* ($C_2H_4Cl_2$, Dutch liquid); but this was disproved by Geuther, Stapf, and Staedel.

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* From a paper of J. Biel, in *Pharm. Zeit. f. Russl.*, 1877, No. 11, and a paper in *L'Union Pharm.*, 1877, 181, with additions by Ed. N. R.

To arrive at a clear understanding of the origin of these secondary products, it is necessary to study the chemical reactions occurring during the generation of chloral:

Chlorine acting upon anhydrous alcohol produces in the first place *aldehyde:*

$$\begin{array}{ccccccc} C_2H_6O & + & Cl_2 & = & C_2H_4O & + & 2\,HCl \\ \text{alcohol} & + & \text{chlorine} & = & \textit{aldehyde} & + & \text{hydrochloric acid.} \end{array}$$

This, with more alcohol, forms *acetal:*

$$\begin{array}{ccccccc} C_2H_4O & + & 2C_2H_6O & = & C_2H_4(C_2H_5O)_2 & + & H_2O \\ \text{aldehyde} & + & \text{alcohol} & = & \textit{acetal} & + & \text{water,} \end{array}$$

which, by substitution of chlorine for hydrogen, forms *trichloracetal:*

$$\begin{array}{ccccccc} C_2H_4(C_2H_5O)_2 & + & Cl_6 & = & C_2HCl_3(C_2H_5O)_2 & + & 3HCl \\ \text{acetal} & & \text{chlorine} & = & \textit{trichloracetal} & + & \text{hydrochloric acid.} \end{array}$$

This yields, with the generated hydrochloric acid, *chloral alcoholate* and *ethyl chloride:*

$$\begin{array}{ccccccc} C_2HCl_3(C_2H_5O)_2 & + & HCl & = & C_2HCl_3(C_2H_6O_2) & + & C_2H_5Cl \\ \text{trichloracetal} & + & \text{hydrochloric acid} & = & \textit{chloral alcoholate} & + & \textit{ethyl chloride.} \end{array}$$

Most of the latter is decomposed with some of the still present alcohol to *ether:*

$$\begin{array}{ccccccc} C_2H_5Cl & + & C_2H_6O_2 & = & (C_2H_5)_2O & + & HCl \\ \text{ethyl chloride} & + & \text{alcohol} & = & \textit{ether} & + & \text{hydrochloric acid,} \end{array}$$

which is converted by fresh chlorine into mono-, bi-, tri-, and finally, *tetrachlorinated* (*ethylic*) *ether:*

$$\begin{array}{ccccccc} (C_2H_5)_2O \text{ or} & + & 4Cl_2 & = & C_4H_6Cl_4O \text{ or} & + & 4\,HCl \\ C_2H_5.O.C_2H_5 & & & & C_2H_5.O.C_2HCl_4 & & \\ \text{ether} & + & \text{chlorine} & = & \textit{tetrachlorinated ether} & + & \text{hydrochloric acid.} \end{array}$$

During the subsequent distillation with concentrated sulphuric acid, the generated chloral alcoholate splits into *chloral* and *ethyl-sulphuric acid:*

$$\begin{array}{ccccccc} C_2HCl_3(C_2H_6O_2) & + & H_2SO_4 & = & C_2HCl_3O & + & H_2O + \\ \text{chloral alcoholate} & + & \text{sulphuric acid} & = & \textit{chloral} & + & \text{water} + \\ & + & (C_2H_5)HSO_4 & & & & \\ & + & \textit{ethyl-sulphuric acid,} & & & & \end{array}$$

and the tetrachlorinated ether undergoes the same change:

$$\begin{array}{ccccccc} C_2H_5.O.C_2HCl_4 & + & H_2SO_4 & = & C_2HCl_3O & + & HCl \\ \text{tetrachlorinated ether} & + & \text{sulphuric acid} & = & \textit{chloral} & + & \text{hydrochloric acid} \\ & + & (C_2H_5)HSO_4 & & & & \\ & + & \textit{ethyl-sulphuric acid,} & & & & \end{array}$$

and the ethyl-sulphuric reacts with muriatic acid to form *sulphuric acid* and *ethyl chloride:*

$$\begin{array}{ccccccc} (C_2H_5)HSO_4 & + & HCl & = & H_2SO_4 & + & C_2H_5Cl \\ \text{ethyl-sulphuric acid} & + & \text{hydrochloric acid} & = & \text{sulphuric acid} & + & \textit{ethyl chloride.} \end{array}$$

On the other hand, if chlorine continues to act upon tetrachlorinated ether, there is produced *pentachlorinated ether*, $C_2H_5.O.C_2Cl_5$, which has a specific gravity of 1.650, and *does not yield chloral*, when treated with sulphuric acid. This is the reason why, in the manufacture of chloral, the current of chlorine gas is interrupted, when the liquid in the carboys has reached a specific gravity of 1.400.

From the *ethyl chloride* generated during the process, chlorine produces the following substitution-products:

(C_2H_5Cl ethyl chloride, or chlorethane);
$C_2H_4Cl_2$ di-chlorethane (æthyliden-chloride);
$C_2H_3Cl_3$ tri-chlorethane;
$C_2H_2Cl_4$ tetra-chlorethane;
C_2HCl_5 penta-chlorethane;
C_2Cl_6 carbon hexachloride, or rather carbon trichloride, a crystalline substance identical with that produced by the action of chlorine gas upon Dutch liquid.

A very variable mixture of the middle members of this series is at present an article of commerce under the name *Liquor anæstheticus*. Another similar mixture, containing the lower members, is the *Aether anæstheticus Aranii*, boiling between 64° and 100° C. (148–212° F.); and the *Aether anæstheticus Wiggers*, which contains the higher chlorides, and boils between 100° and 140° C. (212–284° F.)

As regards the other chloral, *croton-chloral*, or, as it is now more correctly termed, *butyl-chloral*, the investigations have not yet led to such detailed results. We are, however, certain that it is produced by the chlorination of two associated molecules of aldehyde. As croton-chloral its formula would be $C_4H_3Cl_3O$; but as butyl-chloral its formula is $C_4H_5Cl_3O$.*

Croton-chloral is distinguished from the ordinary chloral, first, by its melting-point, which is at 78° C. (173° F.), while common chloral melts at 56° C. (133° F.); and second, by the products of its decomposition. *Ethyl-chloral*, when brought in contact with alkalies, splits into *chloroform* and *formic acid:*

$$\begin{array}{ccccccc} C_2HCl_3O & + & KHO & = & CHCl_3 & + & KCHO_2 \\ \text{ethyl-chloral} & + & \text{potassa} & = & \textit{chloroform} & + & \text{potassium } \textit{formate,} \end{array}$$

while *croton-chloral*, under the same conditions, splits into *dichlorallylene* and *formic acid:*

$$\begin{array}{ccccccccc} C_4H_3Cl_3O & + & 2KHO & = & C_3H_2Cl_2 & + & KCl & + & \\ \text{croton-chloral} & + & \text{potassa} & = & \textit{dichlorallylene} & + & \text{potassium chloride} & + & \\ & & + & KCHO & + & H_2O & & & \\ & & + & \text{potassium } \textit{formate} & + & \text{water.} & & & \end{array}$$

(To be continued.)

TANNIN AS A DEODORIZER OF IODOFORM.

EDITORS OF NEW REMEDIES:

Having accidentally discovered that *tannin* will deodorize *iodoform*, I take pleasure in making known this fact to you, and through you, to the profession.

I use it in equal parts, as an application to chancroids and to old offensive ulcers.

Yours, etc.,
J. R. COLE, A.M., M.D.,
Resident Physician, Hot Springs, Ark.

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A New Mucilage.—The *Journal de Pharmacie* states that if, to a strong solution of gum-arabic, measuring 8½ fluid ounces, a solution of 30 grains of sulphate of aluminum, dissolved in two-thirds of an ounce of water, be added, a very strong mucilage is formed, capable of fastening wood together, or of mending porcelain or glass.

Large Doses of Iodide of Potassium.—In the course of the recent meeting of the American Dermatological Association, it was stated that Dr. A. Brooks, of Chicago, had given as much as one thousand grains per diem of iodide of potassium.

Recovery after Taking Eighty Grains of Tartar-Emetic.—Mr. F. Mason, of Bath, England, reports, in the *Brit. Med. Jour.*, a case of a laboring man who took, by the mistake of a prescribing druggist, eighty grains of tartar-emetic. No very serious results followed, but the use of tannin and emetics was resorted to, followed by decoctions of cinchona. The patient had been suffering with diarrhœa for several weeks, and seems really to have been benefited rather than made worse by the rough treatment he experienced.

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* The name *croton*-chloral is owing to the relationship of this compound to *crotonic* acid found in *Croton Tiglium*. Crotonic acid, isomeric with methacrylic acid, is $C_4H_6O_2$; croton-aldehyde, C_4H_6O: croton-chloral $C_4H_3Cl_3O$. Starting from *butyric acid*, $C_4H_8O_2$, we have butyl-aldehyde C_4H_8O, and butyl-chloral, $C_4H_5Cl_3O$.

ON THE MUTTON WINE OF THE MONGOLIANS, AND ANALOGOUS PREPARATIONS OF THE CHINESE.

By Dr. D. J. Macgowan, of Shanghai.[*]

Chinese medical writers make little distinction between Materia Medica and Materia Alimentaria. The *Pun-tsao*[†] ascribes therapeutic properties to all articles that are used as food. Nearly all portions of animals, the human frame included, are supposed to be efficacious in the treatment of disease. In their preparation they are for the most part subjected merely to ordinary culinary treatment. The exceptions consist of animal substances, which are macerated in fermented or distilled liquors. To these they apply the term *chiu*, commonly rendered "wine" by sinologues. Hence we find in the *Pun-tsao:* "Mutton wine, dog wine, deer wine, deer-horn wine, tiger-bone wine, black snake wine, flowery snake wine, *hi* snake wine, and tortoise wine."

Alcohol is designated in the *Pun-tsao* as ah-lih-kih, which indicates the Arabian origin in China of the art of distillation. It is seldom used as a pharmaceutical menstruum, their distilled *chiu* being employed as a solvent for articles used as medicines.

These animalized liquors, if that term be allowable, are for the most part extemporaneously prepared—a few only are to be had in apothecary shops ready made; such are several kind of snake wines. These latter are used in palsy. In Kwang-si the fermenting agent is a species of wild grass. The snake thus employed appears to be peculiar to the mountains of that province. To assure purchasers that the article is genuine, a strip of the skin of the animal is fastened to the top of the containing vessel. This wine is in high esteem as an anthelmintic and as an antidote to malaria. Wuhu on the Yang-tse produces a snake wine which is in high repute. An adder wine is used in paralysis and insanity. There is a long edible snake spoken of as found in Kiang-si, which, being dried and smoked, is pared off in thin slices, like smoked beef, and is found a convenient condiment by travellers.

The wine in which tortoise has been macerated is described as useful in chronic bronchitis. Cases of ten and twenty years' standing have, says the *Pun-tsao,* yielded to this remedy.

Dog wine is described as very heating and stimulating.

The officinal *mutton wine* of the Pharmacopœia is in fact made of goat's flesh, the goat and sheep being often confounded; the latter animal does not appear to have been known to the ancient Chinese.

Various species of sheep are described in the *Pun-tsao* or Chinese Pharmacopœia, which are not recommended for macerating in wine. Among these is the great-tailed sheep of the Kwan-lun mountains, the caudal extremities of which are stated to weigh thirty pounds, rendering locomotion difficult. It is added that these adipose tumors require to be removed annually, else the animal will die. Their tails are cut open, the fat cut out, when the edges are brought together by a suture.

Sheep and goat wines are directed to be prepared in the following manner: Take ten catties (1 catty = 1⅓ lb.) of soaked rice, seven catties of goat or sheep flesh, fourteen onions, one Shan-tung cabbage, and a catty of almond kernels. Mix them well together, and let the mixture stand and brew without malt for ten days, at the end of which time a small quantity of liquor is produced; it is a sweet and unctuous liquor, or mutton wine. This is the formula adopted in the preparation of all the animal liquors above named.

"Mutton or goat wine is a great restorer of the constitution; it strengthens the stomach, the kidneys, and testes," according to the *Pun-tsao.*

Having many years ago met with a jar of mutton wine, which its owner, a Mongolian mandarin, greatly prized, I instituted inquiries respecting its mode of preparation and uses among the nomads of the north, but without success until a few months ago, when the Rev. J. Gilmour, in response to a request that I made of him, courteously undertook the investigation of the matter, and was at the pains to have the article prepared under his own supervision.

The following were the ingredients: 1 sheep; 40 catties of cow's milk wine; 1 pint of skim milk, soured and curdled; 8 ounces of brown sugar; 4 ounces of honey; 4 ounces of fruit of Dimocarpus (*Euphorbia Litchi,* Desf.); 1 catty of raisins, and half a dozen other drugs weighing in all about one catty. The sheep must be a castrated male, and two years old, neither more nor less.

Plant necessary for Distillation.—1 large pot (cast iron), 1 wooden half-barrel opened at bottom,[*] 1 smaller pot (cast iron), 1 earthenware jar, felt belts, cow-dung, fire.

Process.—Set the boorher[*] on the large pot, calk the joining first with paper, then daub the outside with cow-dung and ashes. Make the boorher air-tight by plastering it all over outside with cow-dung.

Pour in the wine, add half the raisins (*i.e.,* 10 oz.), cut or crushed, half the brown sugar, the pint of skim milk, and the bones of the sheep's legs from the knee downward, after breaking them open.

From the other bones strip all the fat and most of the flesh, leaving them fleshy. Hang them, head and all, inside the boorher high enough to be beyond the reach of the wine, and low enough to be out of reach of the pot above. Break up the medicines into small pieces (do not pound them), and put them into the earthenware pot. Into that pot put also the honey, white sugar, dragon's eye, and the remaining half of the brown sugar and raisins; suspend the earthenware pot in the centre of the boorher, put on the pot above, and make the joining air-tight by paper, cloth, and felt bands. Apply fire to the great pot. When the upper pot feels warm to the touch, fill it with cold water and stir it. When the water becomes too hot to touch, ladle it out and fill up with cold water. When this second potful of water becomes too hot for the hand, slacken the fire, take off the upper pot, and the earthenware pot will be seen full of a dirty brown liquor boiling furiously. Take out the earthenware pot, pour off the liquid, replace the earthenware pot, replace the upper pot, fill with cold water. When this potful of water becomes hot the whole thing is over. The earthenware pot is again about half filled, pour it off and let it cool. When reasonably cold put it up in jars, and close them with the membrane of ox or sheep's bladders.

Remarks.—The great bulk of the flesh of the sheep is not used, nor any of the fat; all the marrow-bones are broken open. The skull is not broken open, nor the tongue extracted from the head. At the end of the process the mutton on the bones is cooked, but tastes badly. The quantity of cow's milk wine in the pot is not much diminished, but the strength is gone, and what remains is good for throwing away only.

Time of making.—"It should not be made before the seventh or eighth Chinese month. This was made on the 12th of the ninth month. It should not be used before the 11th or 12th Chinese month. None but aged people should drink it. It may be taken daily in one, two, or three small Chinese winecupfuls, till finished. The first winter the patient uses it, not more than 2 or 3 catties should be drunk. If found to agree with the patient, and if taken a second winter, another catty may be added, *i.e.,* first winter 2⅓, second 3⅓, third 4⅓ catties. If kept till spring it becomes useless, if not dangerous. Many people use it, but few take it more than one winter. Its use is (seemingly) to repair any manifestations of weakness arising from old age.

"*Case.* Rev. J. Gilmour's teacher, when 50 years old, was afflicted with a shaking of the head from right to left. He drank 2 or 3 catties of mutton wine in the dead of winter, recovered, and is now all right."

The liquor thus prepared has a very strong odor of mutton; it is sweetish and unctuous. Specific gravity, 0.98873. Alcoholic percentage, 9.14.

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[*] First published in Journal of the North China Branch of the Royal Asiatic Society, vol. vii., 1873, p. 235.

[†] See New Rem., Jan., 1877, page 20.

[*] This is about two feet high and tapering. At the bottom it is large enough to sit on the rim of the big pot; at the top it is small enough to et the small pot sit in it without falling through. It is called *Boorher*.

REVISION OF THE UNITED STATES PHARMACOPŒIA.*

At the late meeting of the Association at Toronto, a Committee was appointed for the purpose of "preparing a complete Pharmacopœia, which may be submitted to the medical and pharmaceutical professions, and which shall be laid before the final Council of Revision" (of the Convention of 1880). The short time intervening before that date makes it necessary that work should be begun at once, and in a systematic manner, and that each co-laborer should promptly enter upon his share of the labor. In order to save time, the six members residing nearest each other, namely, those of New York and Philadelphia, have discussed the general principles which should be followed in the preparation of the new pharmacopœia, and which it is hoped will meet the views of the other members of the committee, and of the profession at large.

General Principles.

1. The present division into Materia Medica (Primary and Secondary List) and Preparations shall be abolished, and all articles shall be mentioned in *one* alphabetical order, retaining, however, such headings as Acida, Aquæ, Decocta, Infusa, Extracta, etc., wherever it will be found useful to give general directions referring to the whole class. At the same time, all formulæ for the preparation of the single members of each class shall be made complete in themselves.

It has been suggested to follow the lead of foreign pharmacopœias in placing the name of the *part* of a plant in front, so as to make classes of Flores, Folia, Radices, etc. This alteration being one, which may be made at any time, it is left open for consideration and discussion.

2. It being deemed advisable to have the pharmacopœia rather too full than deficient, it is proposed not to omit any article at present officinal, but to leave the responsibility of cancelling with the final Committee of Revision. A list of "Remedies to be discarded" is, however, to be submitted to the latter.

3. The following is a *preliminary* list of new drugs and new preparations, comprising most of those which have been recommended for reception into the new pharmacopœia during the last ten years. Some of them, however, are of questionable value, and are only mentioned to draw out the opinions of others. Most of them are distinguished by a sign of interrogation [?]. The *first* name is the proposed officinal Latin name.

Crude Drugs:

Arum (maculatum and triphyllum), Aurantii folia (Citrus Aur.), Baptisia (tinctoria), Cactus (grandiflorus), Calendula (officinalis), Chelidonium (majus)?, Coca (Erythroxylon Coca), Eriodyction (Californicum), Eucalyptus (globulus), Fucus (vesiculosus), Galanga (Alpinia officinarum), Galium (Aparine)?, Grindelia (robusta and squarrosa), Guarana (Paullinia sorbilis), Hamamelis (Virginica), Pilocarpus (pennatifolius), Kalmia (latifolia)?, Malva (rotundifolia, etc.)?, Pulsatilla (Anemone Pulsatilla)?, Rhamnus (Rhamnus Frangula), Sumbul (Ferula Sumbul), Symphytum (officinale)?, Thea (Chinensis), Thuja (occidentalis)?, Tilia (ulmifolia; flowers), Trifolium (Menyanthes trifoliata)?, Triticum (repens), Tussilago (Farfara), Verbascum (Thapsus)?, Viburnum (prunifolium).

Chemicals:

Acidum Hydrobromicum dilutum, Acidum Oleicum, Acidum Salicylicum, Acidum Thymicum (or Thymol), Æther aceticus, Amyl Nitris, Apomorphia, Auri Chloridum, Bismuthi citras, Bismuthi et Ammonii citras, Chloral butylicum (Croton chloral), Caffeinum, Calcii bromidum, Calcii hypophosphis, Calcii iodidum, Calcii saccharas, Calcii sulphuretum, Camphora bromata (monobromated C.), Cinchonidiæ sulphas, Codeia, Colchicia?, Conia, Emetia, Ferri bromidum, Ferri carbonas saccharata (dry), Ferri hypophosphis, Lithii bromidum, Magnesia ponderosa (Heavy Magnesia; "Magnesia" might be made to denote the heavy variety alone), Morphiæ hydrobromas, Paraffinum, Piperinum?, Platini chloridum, Potassii arsenias, Potassii hypophosphis, Potassii sulphocarbolas, Propylamia?, Quiniæ hydrobromas, —salicylas,—tannas, Quinidiæ Sulphas, Salicinum, Sodii arsenias, Sodii bromidum, Sodii chloras, Sodii hypophosphis, Sodii iodidum, Sodii santonas, Sodii sulphocarbolas, Sodii sulphovinas?, Trimethylamia?, Zinci bromidum, Zinci iodidum, Zinci phosphidum, Zinci sulphocarbolas.

Pharmaceuticals:

Acetum aromaticum, Apiol?, Argenti nitras fusa diluta (⅓ arg. nit., ⅔ pot. nit.)?, Chinoidinum (objected to by some on account of its varying composition), Dextrinum, Elæosacchara, Elixiria—various, Emplastrum ichthyocollæ, Emplastrum fuscum, Extractum carnis, Extractum ergotæ (the fluid extract evaporated), Extractum jalapæ alcoholicum, Extractum malti, Extracta sicca (various), Extractum capsici fluidum, Extractum castaneæ fluidum, Extractum cocæ fluidum, Extractum eupatorii fluidum, Extractum petroselini fluidum?, Extractum tritici fluidum, Extractum vanillæ fluidum, Fel bovis depuratum, Glyceritum vitelli (or Glyconinum = Glyconin), Liquor ammonii anisatus, Liquor chloroformi compositus (Chlorodyne)?, Liquor opii compositus, Liquor sodii silicatis. Hydrargyri oleas, Aconitiæ oleas, Morphiæ oleas, Quiniæ oleas, Veratriæ oleas; (being solutions of the salts in excess of oleic acid, they cannot well be classed among chemicals; perhaps it would be best to put them under a special heading "Oleates"). Oleum phosphoratum, Oleum santali?, Opium denarcotisatum (in powder, and of standard morphia strength), Pepsinum, Pulvis glycyrrhizæ compositus, Pulvis morphiæ compositus (Tully's powder), Spiritus odoratus (Cologne), Syrupus calcis lactophosphatis, Syrupus hypophosphitum, Syrupus manganesii iodidi, Tinctura calami, Tinctura calendulæ, Tinctura chinoidini (objected to by some for the same reason as in the case of chinoidine), Tinctura eucalypti, Tinctura ferri acetatis, Tinctura gelsemii, Tinctura thujæ?, Unguentum diachylon (Hebra's Oint.), Unguentum paraffini (or Oleo-paraffinum in place of the patented "Vaseline"), Vinum ferri amarum, Zinci nitras fusa.

This list is of course not complete; and additional suggestions of further additions, as well as criticisms of the preceding lists, will be very welcome. The members of the committee will have to take into consideration the wants of their locality, and suggest anything which is of frequent use in legitimate practice.

4. To all crude drugs, short and concise descriptions should be added, sufficient to indicate the distinctive characteristics visible to the naked eye; and, when necessary, such as are visible under an ordinary good pocket-lens. Common admixtures or sophistications should be mentioned, and the differences pointed out. The botanical names of plants should be accompanied by the name of the determining botanist, and by the name of the natural family.

5. Chemicals, except those where differences of preparation may produce different results, shall only be described and defined by tests of identity and purity. Processes appear to be required only in the following cases:

Solutions of chemicals (Liquores, etc.), Acid. benzoic, Acid. nitro-muriat., Acid. phosphor. dil. (should be made stronger), Acid. hydrocyan. dil., Acid. hydrobrom. dil., Acid. sulphurosum, Aconitia, Arg. nitras fusa, Bismuthi et ammon. citras, Calcii phosphas ($CaHPO_4$), Calcii saccharas, Ferri et quin. cit., Ferri et strych. cit., Ferri citras, Ferri et amm. cit., Ferri et ammon. tart., Ferri et pot. tart., Ferri iodid., Ferri oxid. hydrat., Ferri pyrophosph., Ferri sulph. exsicc., Ferrum redactum, Hydrarg. iod. vir., Hydrarg. oxid. flav., Hydrarg. ammon. chlor., Hydrarg. sulphuret. nig., Potass. sulphuret., Quiniæ salicylas, Quiniæ tannas, Sulphuris iodid., Sulphur. præcip., Antim. oxysulphur., Arsenici iodid., Digitalinum, Acidum oleicum depuratum, Zinci phosphidum.

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* A circular issued by the Chairman of the Committee of Sixteen, referred to in the Editorial.

6. Temperature shall be expressed both by degrees of Centigrade, and by degrees of Fahrenheit.

7. Under the title of those chemicals which admit of it, their formulæ after the new notation, and their atomic weights shall be given.

8. All measures of capacity shall be abandoned, and quantities shall be expressed only in parts by weight. In the case of liquid galenical preparations the carrying out of this rule is difficult, if it is at the same time required to preserve the present strength of these preparations. As a general rule, it may be set down that those tinctures, wines, etc., where a slight variation of dose is of no account, should all be made of uniform strength, even if differing from that at present in use. But in the case of very active preparations, such as Tinct. aconiti, opii, nucis vomicæ, veratri viridis, etc., the present strength is to be as nearly as possible retained.

In the case of fluid extracts, it is proposed to ascertain from a series of very carefully made samples, *representing minim for grain*, and prepared from drugs of known hygrometric condition by means of menstrua of known strength, the *weight of the product* obtained, which figure shall be made use of, in the new formulæ, to indicate the weight of the finished extract. Although the figures obtained for the different fluid extracts will vary among themselves, still the result will be that, while these preparations conform to the general rule of being *made* by weight, they will nevertheless represent the drug, minim for grain.

9. Under all officinal articles, which, as such, are used as remedies, the average *adult* dose should be stated. In case the remedy has a peculiar active effect upon infants (as in the case of opium), the *maximum infant dose* should also be added. Perhaps in this manner:

Dose.—Single: — grs. Daily: — grs. Maximum single dose for infants: — grs.

10. The following tables are suggested to be added to the pharmacopœia:

a. A table of the maximum single and daily doses of powerful remedies.

b. A table of poisons and antidotes.

c. A table of the solubilities of the officinal chemicals in water and alcohol, at 15.5° C. (60° F.), and at their boiling-point.

d. An alcoholometrical table (Dr. Squibb's is the most useful).

e. Tables of the spec. grav. of the officinal liquid acids. (Wherever possible, specific gravities should be given both for 15.5° C. (60° F.), and for 25° C. (77° F.).)

f. A table of reagents in proper dilution; and a list of normal volumetric solutions.

g. A table of the relationship between weight and measure of all liquid preparations. This would facilitate the introduction of the system of prescribing by weight alone. The table might have this shape:

Apothecaries'.		Name of Preparation.	Metric.	
1000 *grs.* measure.	1000 *min.* weigh.		1000 *gms.* measure.	1000 *cc.* weigh.*
777 *min.*	1287 *grs.*	Liq. Ferri Chlor..	738 *cc.*	1355 *gm.*
842	1187	Glycerina........	800	1250
1447	691	Ether fortior.....	1374	728

h. A table of the quantities of the chief constituents of the important mineral waters, which are used medicinally.

i. A comparative table of the strength of powerful galenical preparations of the principal foreign pharmacopœias used in this country.

k. A table exhibiting the differences in strength of the preparations as made by the previous and by the new pharmacopœia.

11. All contributions from the members of the Committee should be written *plainly*, on ONE side of foolscap paper. Formulæ which are transcalculated into parts by weight should be sent as follows:

Linimentum Saponis.	Original Formula.	Exact Weight.	Approximation.		
Soap...........	4 troy oz.	1920 grs.	19	or simpler	20
Camphor.......	2 "	960 "	10		10
Oil Rosemary...	½ fl. oz.	207 "	2		2
Water..........	6 "	2734 "	27		25
Alcohol........	2 pints.	12176 "	122		120

The work which is to be done by the Committee naturally divides itself into three branches: *Pharmacognosy*, *Chemistry*, and *Pharmacy*. It has been thought best to form a sub-committee of three, to be called Expert Committee, each member of which will take charge of one of these branches, and will invite the co-operation of other members of the General Committee. It augurs well for the result that Prof. *J. M. Maisch* of Philadelphia, and Dr. *Fred. Hoffmann* of New York, have agreed to take charge, the former of Pharmacognosy, and the latter of Chemistry. The department of Pharmacy, which contains still some open questions requiring settlement, the *undersigned* will for the present retain; besides, he will take charge of the general management, and of the codification of whatever is contributed.

The members of the Committee, as well as the members of the Association at large, have to express their deep regret that the services of the man who has done more than any other to bring about a revival in pharmacopœial matters, and to elevate American pharmacy—Dr. Ed. R. Squibb—could not be secured, in an *official* capacity, for the purposes of this Committee. His reluctance to serve, we are authorized to say, is not due to diminished interest in the Pharmacopœia, nor to unwillingness to work for it in the way now to be tried by this Committee, which has already had his counsel fully and freely given in the past, and has every assurance of receiving it in the future; on the contrary, it is owing to his conviction that it would not be consistent to take a prominent part in a movement led by the American Pharmaceutical Association, which had been received with such marked disfavor when proposed to the American Medical Association.

The names and addresses of the Committee are as follows:

WILLIAM SAUNDERS, London, Ontario.
FREDERICK HOFFMANN, Ph.D., New York, N. Y.
P. WENDOVER BEDFORD, New York, N. Y.
JOHN M. MAISCH, Philadelphia, Pa.
JOSEPH P. REMINGTON, Philadelphia, Pa.
CHARLES BULLOCK, Philadelphia, Pa.
GEORGE F. H. MARKOE, Boston, Mass.
SAMUEL A. D. SHEPPARD, Boston, Mass.
JOHN F. HANCOCK, Baltimore, Md.
ALBERT E. EBERT, Chicago, Ill.
C. LEWIS DIEHL, Louisville, Ky.
EDWARD S. WAYNE, Cincinnati, O.
WILLIAM H. CRAWFORD, St. Louis, Mo.
CHARLES MOHR, Mobile, Ala.
EMLEN PAINTER, San Francisco, Cal.

CHARLES RICE, NEW YORK, N. Y.,
Chairman.

◆

An Electric Plant.—In the *Hamburg Garten- und Blumenzeitung*, 1877, No. 1, Mr. Levy describes a plant, which he asserts emits electric shocks when touched, or when tearing off branches. It is also said to affect the magnetic needle at a distance of 7 or 8 paces. The plant is said to be a new species of *Phytolacca*, and has been named *Ph. electrica*.

Quinia Alkaloids in the Marine Hospital Service.—The Supervising Surgeon-General of this service has issued a circular to the medical officers, calling attention to the relative value and prices of other than the quinia salts.

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* The figures in this column at the same time denote the specific gravities of the preparations.

THE MEDICAL DEPARTMENT OF SYRACUSE UNIVERSITY, AND MEDICAL EDUCATION.

EDITOR OF NEW REMEDIES.

DEAR SIR: I send with this our circular, and would like to call your attention to the fact that this school was the *first* after Harvard, of all the schools in the United States, to adopt the graded system in full.

We subject students to preliminary examination to exclude unworthy material; our college year is nine months long; we insist upon attendance throughout the entire year of all candidates for the degree; we make a systematic division of studies, and insist upon each regular student following the prescribed course. We are doing honest, thorough work, and we want the profession to know it.

A notice in a late number of NEW REMEDIES, alluding to a new departure by the Ann Arbor school, and to the advanced stand taken by Harvard and the Philadelphia school, gives *us* no credit—and we need all the credit through the press that we deserve. I think the matter of "advance" in medical education stands about like this:—The first school in the United States to classify its pupils, and adopt a graded course, was the Chicago Medical College, nineteen years ago. The ordinary lecture-term was not lengthened, nor is it yet.

Harvard followed in 1871, adopting not only the graded course, but a college year *nine months long*. The Syracuse school followed Harvard on the same plan two years ago, and now Ann Arbor wheels into line.

Several other schools have adopted a system of gradation, but none in the United States, save Harvard, Syracuse, and Ann Arbor, have lengthened the required time of study to more than a single lecture-term of five months.

Time for study is as essential as gradation and classification. The great and venerable school connected with the University of Pennsylvania, has done well, so far as she has gone, but she needs to put on another term, and *require* attendance throughout *both* terms of the year.

Very truly yours,
WM. T. PLANT, *Registrar*.

SYRACUSE, N. Y., Sept. 24, 1877.

BIBLIOGRAPHY.

THE EAR: ITS ANATOMY, PHYSIOLOGY, AND DISEASES. A Practical Treatise for the use of Medical Students and Practitioners. By CHARLES H. BURNETT, M.D., Aural Surgeon to the Presbyterian Hospital, etc., with eighty-seven illustrations. Philadelphia: Henry C. Lea, 1877. 8vo, pp. 615.

CONSIDERABLY more space than we can allow to it would be required to give a notice worthy of this admirable work. The author has become well known as an authority on the affections of the organ of hearing; and the volume which, after considerable preparation, he now offers to the medical profession, completely justifies his reputation. The number of references to the literature of the subject is very large and correspondingly valuable. Part First, on the anatomy and physiology is very complete, and illustrates well the degree of refinement in such matters which follows the labor of specialists; as, for example, when Dr. J. C. Blake's observations on the weight of the ossicles are quoted, and it is gravely stated that "it is also worthy of note that the proportionate weight of the ossicula, one to another, is not constant." Considering that the same may be said of every other organ and feature of the body, this does not seem to us so *very* remarkable. One hundred and sixty-two pages are given to the part referred to, which is as complete in its descriptions and as thoroughly illustrated as could be desired.

Part Second, devoted to an account of the diseases of the ear, is arranged in sections as follows: 1. Examination of Patients; 2. Auricle; 3. External Auditory Canal; 4. Membrana Tympani; 5. Middle Ear; 6. Internal Ear; 7. Deaf Mutes and Partially Deaf Children.

In special treatises, at the present day, while etiology and pathology are quite likely to receive as thorough consideration as the state of our science will permit, the question of treatment is too often presented in a way that would seem to presume it to be of minor importance. In the present instance, however, we are pleased to see a commendable degree of attention to this view of the subject, and take it as welcome evidence of the practical familiarity of the author with that which he writes about.

GENERAL PRICES CURRENT of Foreign and Domestic Drugs, Medicines, Chemicals, Extracts, Pharmaceutical Preparations, Essential Oils, Sponges, Fancy Goods, Druggists' Sundries, Perfumery, Proprietary Articles, etc., etc. W. H. SCHIEFFELIN & CO., Importers and Jobbers, Nos. 170 and 172 William Street, New York. September, 1877. 8vo, pp. 318.

THIS is one of the most complete and elegantly prepared lists of prices and goods that has yet come to our notice, and testifies to the good taste of this well-known and enterprising house.

PRACTICAL HINTS ON THE SELECTION AND USE OF THE MICROSCOPE. Intended for Beginners. By JOHN PHIN, Editor of *The American Journal of Microscopy*. Second edition. New York: Industrial Publication Co. 1877. 12mo, pp. 181.

THIS is a clearly written, well illustrated, carefully arranged, and practical little work. It is well adapted as a guide for beginners in microscopy, and offers advice which will be of value to those who think of providing themselves with an instrument and its accessories. Those who cannot afford more expensive works will not regret the purchase of this hand-book, since it embraces pretty much all that is likely to be of value to them.

TRANSACTIONS OF THE KENTUCKY STATE MEDICAL SOCIETY. Twenty-second Annual Convention. Held at Louisville, April 3, 4, and 5, 1877. 8vo, pp. 217. Published by the Society.

THE venerable Lunsford P. Yandel, M.D., was elected President of the Association, the proceedings of which were made interesting by a number of good papers on a variety of subjects. Those of a therapeutical nature were as follows: "Anæsthetics in Parturition," by the President, L. P. Yandel. [Endorsing strongly the employment of anæsthetics—the possible objection to the use of chloroform, that it has been thought to favor hemorrhage following delivery, being nullified by the power of ergot.] "Report on Materia Medica," by L. P. Yandel, Jr. "The Pathology and Treatment of Sprains," by R. O. Cowling, M.D. [A very reasonable and readable paper on a subject about which the profession has learned much from the sect of bone-setters.] "Infantile Therapeutics," by J. A. Larrabee, M.D. "Physiological Therapeutics in Fever," by John L. Cook, M.D., etc., etc. The typography and binding, by John P. Martin & Co., of Louisville, are very creditable pieces of work. We regret that this, like numerous similar publications, is issued without a table of contents or an index—omissions which deprive an otherwise admirable book of part of its value.

NOTE SUR LA FORMATION de l'Axide Oxalique, pendant la Destruction des Matières animales par le Procédé de Fresenius et Babo. EDM. VAN MELCKEBEKE. Republished from the Bull. de l'Acad. Roy. de Méd. de Belg. XI. [3]. No. 6.

APPLICATION OF ORGANIC ACIDS TO THE EXAMINATION OF MINERALS. By H. CARRINGTON BOLTON. New York: 1877.

OFFICIAL CIRCULARS OF THE JOHNS HOPKINS UNIVERSITY. Nos. 10 and 11. Baltimore: June, 1877.

DEFECTS OF HEARING AND OTHER EVILS; the Result of Enlarged or Hypertrophied Tonsils, etc. By A. W. CALHOUN, M D. Atlanta, Ga.: 1877. Privately published. 8vo, pp. 12.

ADVISES removal with the bistoury, and quotes a number of cases.

Etherization. By D. W. C. Wade, M.D., of Holly, Mich. 8vo, pp. 18.

Reprint from the transactions of the Michigan State Medical Society, advocating the substitution of ether for chloroform as an anæsthetic, and offering an apparatus for facilitating its use in administration.

Puerperal Fever (*Puerperal Bacturæmia*). By De Witt C. Wade, M.D., of Holly, Mich. Privately published. 8vo, pp. 8.

Thinks the disease is due to presence of bacteria in the blood, a theory that has many and strong opposing arguments; but, however correct or otherwise his theory of causation may be, the treatment of the affection recommended is logical.

Management of the Insane in Great Britain. By H. B. Wilbur, M.D. Privately published. 8vo, pp. 74.

The second edition of a report made a year since, and published under the sanction of the State Charities Aid Association. About 20 pages devoted to a rejoinder to a criticism of the first edition in the *Amer. Jour. of Insanity* of January.

The Physician's Visiting List for 1878. (Twenty-seventh Year of Publication.) Philadelphia: Lindsay & Blakiston. With tuck and pencil. Price, $1 to $3, according to size.

This useful book was the first of its kind published in this country, and has proved to be very popular. Its publishers find it desirable to have it ready for early issue to meet the demand on the part of booksellers and druggists, from whom physicians obtain their supply. The various sizes are adapted for twenty-five patients a week and upwards. Besides the blank leaves for memoranda, it contains an almanac, table of signs, Marshall Hall's method of resuscitating asphyxiated persons, poisons and their antidotes, table for calculating the period of utero-gestation, etc. It also has a pocket for cards and prescription papers.

This house has also recently issued a revised catalogue of its publications, many of which have been greatly reduced in price. The catalogue will be furnished gratis upon application.

Cyclopædia of the Practice of Medicine. Edited by Dr. H. von Ziemssen. Vol. XVI. Diseases of the Locomotive Apparatus, and General Anomalies of Nutrition. Albert H. Buck, M.D., Editor of the American Edition. New York: William Wood & Co. 1877. Roy. 8vo, pp. 1,060.

The sixteenth volume of this noble work contains the following sections: The Rheumatic Affections of the Joints and Muscles, Rheumatism, Gout, Arthritis Deformans, Rickets, Malacosteon, by Prof. H. Senator, of Berlin [Translated by E. Buchanan Baxter, M.D., of London]; Slight Disorders Caused by Catching Cold, by Prof. E. Seitz, of Giessen [Translated by Dr. Baxter]; General Disorders of Nutrition, Corpulence, Anæmia, Chlorosis, Progressive Pernicious Anæmia, by Prof. H. Immermann, of Basel [Translated by Dr. Baxter]; Scrofulosis and Affections of the Lymphatic Glands in General, by Dr. Birch-Hirschfeld, of Dresden [Translated by Godfrey Ainger, M.D., of New York]; Diabetes Mellitus, and Diabetes Insipidus, by Prof. H. Senator [Translated, respectively, by Frank P. Foster, M.D., of New York, and Henry P. Bowditch, M.D., of Boston].

There are few topics in medicine which have undergone such important changes and received such considerable additions within a short period as the ones embraced in this volume, and its publication counts for considerably more than a simple numerical addition to the number of volumes already issued. It is one of the most valuable books of a series which is already without a rival.

Medicinal Plants. Being Descriptions, with Original Figures, of the Principal Plants employed in Medicine, and an Account of their Properties and Uses. By Robert Bentley, F.L.S., and Henry Trimen, M.B., F.L.S. Philadelphia: Lindsay & Blackiston.

Subscribers to this elegant and valuable work can now obtain parts 11, 12, and 13, the contents of which are as follows:

Part 11.—Columbo (*Jateorrhiza Calumba*); Bael (*Ægle Marmelos*), or the Bengal Quince [See New Rem., iv., p. 161], a remedy for dysentery; Quassia (*Picræna Excelsa*); Black Alder (*Rhamnus Frangula*); Blackberry (*Rubus Villosus*); Wormwood (*Artemisia Absinthium*); Yew (*Taxus baccata*).

Part 12.—Horse-Radish (*Cochlearia Armoracia*); Fenugreek (*Trigonella Fœnum-græcum*); Red Rose (*Rosa Gallica*); Manna Ash (*Fraxinus Ornus*); Garden Thyme (*Thymus vulgaris*); Mezereon (*Daphne Mezereum*); Scotch Fir (*Pinus sylvestris*).

Part 13.—Aconite (*Aconitum Napellus*); Gulancha (*Tinospora cordifolia*), an antiperiodic and tonic Hindustanee drug; Cowhage (*Mucuna pruriens*); Elecampane (*Inula Helenium*); Pellitory (*Anacyclus Pyrethrum*); Levant Wormseed (*Artemisia pauciflora*); Nux-vomica (*Strychnos Nux-vomica*).

Each part has a double-page illustration, and all are fully up to the excellent character of the numbers that have preceded them.

NEW BOOKS.

Thorpe (J. E.). Inorganic Chemistry. Part II. Metals. 12mo, $1.50. G. P. Putnam's Sons.

Thudichum (J. L. W.). A Treatise on the Pathology of the Urine, with a Complete Guide to its Analysis. 2d ed. 8vo, pp. 570. Lindsay & Blakiston. $5.00.

Cristiani (R. S.). A Comprehensive Treatise on Perfumery, etc. 8vo, pp. 400. $5. Henry C. Baird & Co.

Woodman (W. B.) and **Tidy** (C. W.). A Text-Book of Forensic Medicine and Toxicology. Illustrated. 8vo, cloth. $7.50.

Farquharson (Robert). A Guide to Therapeutics. Edited with additions embracing the U. S. Pharmacopœia. By Frank Woodbury, M.D. Royal 12mo (announced).

Burnett (Charles H.). The Ear. Its Anatomy, Physiology, and Diseases. 87 Illustrations. 8vo, pp. 620. Henry C. Lee. $4.50.

Hehn (Vict.). Kulturpfanzen und Hausthiere in ihrem Übergang aus Asien nach Griechenland und Italien, etc. 8vo. Berlin. In numbers, à 64 kr. (= 32 cents).

Gautier (E.-J.-Arm.). La Sophistication des Vins. Moyens pratiques de reconnaître la fraude. 18mo, pp. 204. fr. 2.50.

Cauvet (D.). Nouveaux Éléments d'Histoire Naturelle Médicale. 2me ed. 2 vols. 18mo. fr. 12.

Duchartre (P.). Éléments de Botanique. 8vo, pp. 1,200. 540 fig. fr. 20.

Griffin (J. J.). Chemical Handicraft: A classified and descriptive Catalogue of Chemical Apparatus. 2d ed. 8vo, pp. 476. 4s.

TRADE NOTES.

A New Coupon Ticket for Druggists' Sundries.

We have recently seen a little octagonal ticket which Mason & McNeil, an enterprising drug-firm in Bay City, Mich., have made use of in their business, as follows: Printed in the centre is a declaration that the check is "Good for $1 worth of cigars" [or soda-water, etc., as the case may be], and around the margin the numeral 5 is printed twenty times. As many numbers may be punched out as correspond to the value of the goods furnished.

In a credit business the debtor can indorse his check, and when used up leave it with the druggist, to be sent in as a voucher with his bill. It makes a business card which will surely be taken care of, and helps to keep trade.

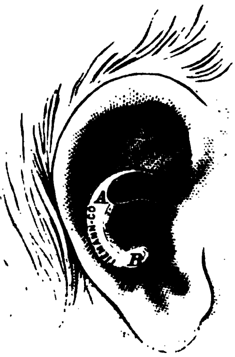
Sulphate of Atropia.

We desire to direct attention to a new brand of atropia and its sulphate, manufactured by the well-known house of Gehe & Co., of Dresden, Saxony, which is prepared with great care, and appears to be free from the drawbacks which have within the last year or two been found connected with the products of other manufacturers. We have been frequently informed by prominent eye-surgeons that the quality of the atropia sulphate of late years has considerably deteriorated from some unknown cause or other, nor have we as yet been able to find a reason for it; but there appears to be no doubt that it did not act as efficiently and promptly as formerly. So far as Gehe & Co.'s atropia is concerned, it has given entire satisfaction. It may be obtained from Messrs. McKesson & Robbins, New York.

Parchment Paper for Dialysing.

Messrs. McKesson & Robbins have imported, at our suggestion, two varieties of parchment paper, specially made for dialysing purposes, entirely free from flaws and of great uniformity of texture, made by R. Rube & Co., of Weende, near Göttingen. No. 1 is a heavy paper, intended for large dialysers, and No. 2 is a thin variety for smaller apparatus. The size is 65 centimetres (26 inches) in width, and may be had of any length required.

Reduced Iron, Chemically Pure, manufactured by Rundspaden, in Hameln, has been noticed by us, after a report made by Dr. Schacht, of Berlin, in our July number, p. 207. It fulfils all the tests there given, and should be used by careful dispensers. It may be obtained from McKesson & Robbins, New York.



Apparitor Auris.

The Apparitor Auris is said to be a powerful aid to the deaf in hearing, and has met with such marked success in England and the Continent that Messrs. Geo. Tiemann & Co. have introduced it here at a price much below that attained in England, and of finer material and better workmanship. They are made of sterling silver with flesh-colored enamel, or of flesh-colored hard rubber.

They are sold in pairs, one for each ear, and are so shaped that they can be worn entirely within the concha, being almost unobservable on account of their close fit and flesh color.

The advantage of this instrument over the well-known cornet consists in having the canal elongated and over-bridged, so that sound entering the aperture (A) cannot diffuse, but is conducted within the tunnel through the meatus auditorius (B) to the tympanum.

Correction.

Our reporter, whose account of the exhibit of pharmaceutical goods at Toronto was published on page 280, was mistaken in his statement that Wm. R. Warner & Co., of Philadelphia, exhibited compressed pills among their other wares. Compressed pills have never been manufactured by that house.

ANALYSES OF PHARMACEUTICAL CHEMICALS AND PREPARATIONS.

We are now prepared to send samples for the December prize to such as may desire to compete for it. Answers must be received before the 20th of November, and be accompanied by a sealed envelope containing the name of the writer, and designated by a device or motto, which is also to be placed, instead of the writer's name, upon the report of the analysis.

Persons to whom a prize has been awarded are requested to send to the publishers the title of any book or books they may desire, not exceeding in the aggregate the value of $10.00.

The prize this month will be divided equally between H. F. Meier *("Chow Chow") of Detroit, and* Alex. M. Linnet *("Photo.") of Newark, N. J.*

The sample for the October analysis contained potassic iodide, fifteen per cent.; potassic bromide, seventy-eight per cent.; and potassic bicarbonate, seven per cent. The potassic iodide contained a trace of sulphate; the bromide was pure, and the bicarbonate contained traces of sulphate and chloride. This sample may be considered as iodide of potassium largely adulterated with bromide of potassium. There is abundant evidence that a considerable number of samples of potassic iodide contain potassic bromide in amounts too large to be regarded as an accidental impurity.

From twenty to seventy-five per cent. of bromide have been reported found in certain samples of iodide, and the writer of this article has analyzed one sample of so-called iodide, which was entirely bromide.

The similarity in form of the crystals of both salts, the much lower market value of the bromide, and the fact that only good analysts can detect even considerable amounts of bromide in presence of the iodide, all tend to render this sophistication of the iodide both possible and probable. In reviewing the analyses this month it will be unnecessary to pay any attention to the detection of potassium. The identification and separation of hydrochloric, and hydriodic acids will, accordingly, be the subject of this article.

The method usually employed for the detection of hydrobromic and hydriodic acids depends on the principle that chlorine will displace bromine and iodine from these acids; accordingly to an aqueous solution suspected to contain bromide or iodide, we add chlorine water,* *drop by drop.*

a. If only an iodide is present, a brownish-black or purple color of iodine will be produced.

If too much chlorine is added the iodine is decolorized, forming iodic acid (HIO_3).

The liberated iodine may be recognized by the dark blue or purple color it imparts to starch paste; also by the violet color imparted to chloroform or carbon disulphide, when shaken with them.

b. In case only a bromide is present, bromine will instantly be liberated. Bromine colors starch paste yellow, and dissolves in carbon disulphide, with a color varying from a pale yellow to a dark red, according to the amount of bromine liberated.

c. If both bromide and iodide are present, all the iodine will be liberated before any bromine appears. Small amounts of bromide are thus often overlooked.

In case much bromide is present the color of iodine may not be noticed, especially if too much chlorine is used. This is due both to oxidation of part of the iodine to colorless iodic acid, and to the masking of the iodine color by excess of bromine.

d. The detection of chlorine in the presence of bromine and iodine requires careful manipulation. Only one practicable process has yet been devised, and it must be admitted that it is very difficult to find such slight traces of chlorine as were present in the sample just sent. The following is the best method:

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* A good substitute for chlorine water is made by heating about five grains of potassic chlorate with a little hydrochloric acid, then diluting with water to about two fl. dr.

To a considerable quantity of the substance—ten to twenty grains—add about an equal weight of potassic dichromate; place in a long test-tube, fitted with a cork and bent tube for distilling; cover the mixed salts with concentrated sulphuric acid, and heat gently. Receive the liberated gases in ammonic hydrate.

By this treatment iodine and bromine are liberated from iodides and bromides, volatilized by the heat, and when received into the ammonic hydrate form colorless iodide, iodate, bromide, and bromate of ammonium. If any chloride is present, there is liberated, *not chlorine*, but chloro-chromic anhydride * (CrO_2Cl_2).

This gas, which much resembles bromine in color, forms, with ammonic hydrate, a yellow solution, containing chloride and chromate of ammonium, thus:

$$CrO_2Cl_2+4NH_4HO=(NH_4)_2CrO_4+2NH_4Cl+2H_2O.$$

The formation of chromate in this distillate is the reaction which proves the presence of chloride in the substance under examination.

Having, then, a sample containing chloride, bromide, and iodide, the method of analysis would be as follows: The chloride would be identified according to method *d*. Next, to about one fl. dr. of the aqueous solution are added a few drops of chlorine water, and the liquid is well shaken with carbon-disulphide. The liberated iodine is freely dissolved by the disulphide, and sinks to the bottom of the tube. Remove the saturated disulphide with a pipette; add a fresh supply and more chlorine, if necessary; continue the operation until no more iodine is separated, and the characteristic yellow color of bromine appears. The removal of the iodine by this process is sure, but often quite tedious, and may be accomplished more quickly in several ways:

1. By precipitation with cupric sulphate with a reducing agent, as white cuprous iodide (Cu_2I_2). Ferrous sulphate or sulphurous acid are good reducing agents.
2. By precipitation with palladious chloride as black palladious iodide (PdI_2). The best method, but seldom employed because of the expense of the reagent.
3. By precipitation of chloride, bromide, and iodide of silver, and treatment of the washed precipitate with considerable ammonic hydrate. The chloride and bromide dissolve; the iodide does not. An approximate separation.
4. By boiling the solution with potassic chlorate and hydrochloric acid. The iodine is partly expelled by the heat, and the remainder is oxidized to iodic acid.

Bromine is unchanged by the above ways of treatment, and may be identified by the usual tests. Methods 1 and 4 are good, and usually employed.

The bicarbonate of potassium was added to this sample to call to mind the fact that nearly all commercial iodide of potassium has an alkaline reaction, and contains from three to five per cent. of carbonate of potassium; this excess of carbonate causing the iodide to be much more deliquescent. Bicarbonate was added, in this case, as it is not deliquescent, hence could be sent in paper packages.

Iodides and bromides often contain traces of iodates and bromates. These impurities, when present in considerable amounts, are medicinally dangerous, and should always be tested for.

See text-books for ways of identifying them.

ANSWERS TO STUDENTS.

Six of the answers received this month were essentially correct; the following is a list of those whose analyses were correct, given in order of merit:

"*Chow-Chow*" and "*Photo.*" No choice.
"*Otto.*"
"*Labor omnia vincit.*"
"*Perseverance, accuracy, and dispatch.*"
"*Frederick, Md.*"

"*Otto.*"—A little faulty spelling was all that was wrong in your analysis.

"*Perseverance, accuracy, and dispatch.*"—Your trace of iron was found because you did not wash the hydrosulphuric acid gas carefully enough. Always pass it through water.

"*Photo.*"—The announcement in August NEW REMEDIES was for the September sample.

"*J.*"—The reason you failed to find the bromide is given in *c*.

"*Gastrinum.*"—Your mistake in not finding the iodide is explained in *c*.

"*Sub.*"—If the mercuric chloride is in excess HgI_2 will be precipitated; but if excess of KI is present the red precipitate will be dissolved, forming potassic mercuric iodide $(KI)_2HgI_2$. This was the cause of your trouble.

"*Helianthus.*"—Your tests for chloride were not conclusive.

"*Sublimate.*"—Your answer correct, but too late to compete.

NOTES, QUERIES AND ANSWERS.

[*Under this heading we shall, to the best of our ability, endeavor to answer such questions addressed to us as come within the scope of this journal, provided they are accompanied by the name and address of the writer. Answers to queries received after the 5th of the month will lie over until the next issue.*]

Elixir of Gentian with Iron (C. F. W., Greenfield, Mass.).—The formula given in our August number, page 251, is probably as good as it can be devised, if you want a *ferric* salt as a constituent. You will remember that there has been a discussion going on for some time between various investigators (Prof. Maisch, Mr. Patch, and others) on the presence or absence of tannin in gentian root, which has resulted in what we consider proof of the absence of tannic acid, as such. There is, however, a bitter principle present, namely, gentianin, or gentianic acid, which produces a dark coloration in liquid preparations of gentian containing ferric salts. Indeed, quite lately, Mr. Ville, of Montpelier, who also examined the subject, contends that this bitter principle is a particular variety of tannic acid, and proposes to call it "gentiano-tannic acid." We should, therefore, have somewhat modified the words we used in our August number, in this respect. You will, however, be able to avoid discoloration by using a *ferrous* salt, as green sulphate of iron, or better, ferrous chloride.

Extract of gentian	256 grains.
Water, hot	1 fl. oz.
Simple elixir	14 fl. oz.
Hydrochloric acid	132 grains.
Water	1 fl. oz.
Iron filings, q. s., or about 1 drachm.	

Dissolve the extract in the warm water and add to the elixir. Place the iron into a small flask, add the water and acid, and when the escape of hydrogen gas has nearly ceased, boil the contents and filter directly into the elixir; finally filter the whole, if necessary.

Acidum Tartaricum "Comp."—One of our subscribers desires to know what this substance can be. He has had a prescription presented to him on several occasions, calling for this curiosity, but neither he nor we are able to make it out. We shall be pleased to hear if any of our readers can answer this query.

Wernich's Ergotin (R. L., Harrisburg, Pa.).—The *Pharm. Zeit.*, No. 69, enables us to answer the query you sent us nearly a year ago. This is a preparation intended for hypodermic use, and has the title: "Extractum Secalis Cornuti bis depuratum pro injectione." It is sold by J.

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* This may be considered as chromic anhydride (CrO_3), in which one atom of oxygen has been replaced by two atoms of chlorine.

D. Riedel, of Berlin. It may be made by dissolving the Extractum Secalis Cornuti of the German Pharmacopœia in three or four parts of dilute alcohol, filtering, evaporating, and repeating the process. Even after this second solution, a small quantity of a gelatinous mass will remain on the filter.

Girondin Disinfectant (A. G. S., Brooklyn, N. Y.).—The principal constituents of this fluid are the chlorides and sulphates of zinc and copper, together with a number of other substances, which were present as accidental impurities in the metallic salts or metals employed.

"**Country Chemist.**"—We regret that for the subject of your inquiry, which is rather foreign to the purposes of our journal, we have at present no space.

G. H. B. (Boston, Mass.), D. C. G. (Evansville, Wis.), and W. C. R. (Mt. Carmel, Ill.).—The nostrum you inquire about has not been analyzed thus far. We do not know its composition.

Blue Soap (J. A. D., Indianola).—We know of no other substance, which, when added to an alkali (soap), would turn it blue, but some soluble blue color. As we do not know the object, we cannot advise you.

Emulsion of Oil of Turpentine (P. F. T., Wamego, Kan.).—Forbes's plan is the best for preparing the emulsions (more properly "pseudo-emulsions") of volatile oils, ether, and chloroform. The proportions are:

℞. Ol. terebinth.................. fl. ℥ ss.
Pulv. acaciæ subtiliss........... ʒ ij.
Syrupi,............... q. s. ad. fl. ℥ iv.
Ol. menthæ pip............... gtt. v.

Pour the oil of turpentine into the vial and shake it about to moisten the walls, then add the powdered gum arabic and agitate thoroughly; next add the syrup in small portions, shaking well each time, and finally add the oil of peppermint, which will completely disguise the taste of the oil of turpentine. See also NEW REMEDIES, vol. v., p. 287.

Vinum Lusitanicum (W. H. G., Zanesville, O.).—This is simply port wine, so called from the Latin *Lusitania*, which corresponds nearly to what is now the kingdom of Portugal.

Cyanides of Iron (R. G., M.D., Guttenberg, Iowa).—There are theoretically two hydrocyanates of iron, namely, the ferrous cyanide $Fe(Cn)_2$, and the ferric cyanide $Fe_2(Cn)_6$. Neither of these, however, are known to exist in a free state. The nearest approach to them may be obtained by adding to a solution of potassium ferrocyanide silicofluoride of iron (prepared by acting with hydrofluosilicic acid upon moist oxide of iron), whereby the potassium is removed as silicofluoride. The brownish-yellow solution which remains is, however, very apt to decompose. At all events, no such salt has been or is likely to be employed in medicine.

NEW PATENTS AND LAWS.

[*We will furnish gratis, to subscribers, any information relating to new patents which can be obtained from the Official Gazette of the Patent Office; and for* 50c. *will give copies of the drawings of such as are illustrated. Electrotypes of the illustrations contained in* NEW REMEDIES *will be furnished for* 50c. *per square inch.*

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TRADE-MARKS REGISTERED IN JULY, 1877.

[Concluded.]

Medicinal Preparations.

4,943. Lafferty & Co., Richmond, Va. The arbitrary words "Vest Pocket."

4,956. R. V. Pierce, Buffalo, N. Y. The fac-simile of the signature "R. V. Pierce, M.D."

4,957. The same.

4,968. Greene, Lindley & Bentley, Cincinnati, O. The monogram composed of the letters "G., L. & B."

4,970. Simon H. Kennedy, Omaha, Neb. A monogram composed of the letters "S. H. K."

4,974. R. V. Pierce, Buffalo, N. Y. The pictorial representation of a mask, or quartering view of the upper and middle third of the human face, used in connection with the words "Dr. Sage's Catarrh Remedy."

4,976. John M. Richards & Co., New York. The word-symbol "Castroleum."

Soaps.

4,971. McCullough Soap Company, Milwaukee, Wis. "The symbol formed of the letters 'C. E. N.,' 'I. A. L.,' figures 10, and the representation of an eye."

4,972. James McKeone, Philadelphia, Pa. "A picture of the head and bust of a man, thrown in oval upon the rays of light, proceeding from a pictorial representation of the sun's disk, upon the right; a rainbow upon the left, in connection with the words and characters, 'Original Chinese San Goon,' and six Chinese character writings."

4,979. John T. Schwachofer, Hunter's Point, N. J. "The bust of the female having the crowned head, and the word-symbol 'Saphia.'"

Miscellaneous.

4,932. Young, Ladd & Coffin, New York, N. Y. A monogram composed of the letters and character "Y., L. & C.," together with the figure of sunbeams. (Perfumery).

4,959. Smith & Parell, Brooklyn, N. Y. The letters and character "L. & S."

Miscellaneous.

4,965. Philipp Dornbusch, Nashville, Tenn. "The letter 'D.' traversed by an arrow." (Aromatic beverage.)

4,978. Riverside Mills Co., Crugers, N. Y. "The word-symbol 'Tip-top.'" (Baking powder.)

4,982. Frank Wright & Brothers, Washington, D. C. "The word-symbol 'Pond Lilly,' and the representation of pond lilies." (Toilet wash.)

TRADE-MARKS REGISTERED IN AUGUST, 1877.

Medical Preparations.

4,989. Nathaniel K. Brown, Burlington, Vt. "The representation of the coat of arms of Vermont, used in connection with the words 'Brown's Compound Concentrated Fluid Extract of Buchu.'"

4,991. Cooke & Co., Washington, D. C. The word-symbol "Popolio."

5,000. Johnston, Holloway & Co., Philadelphia, Pa. "The word-symbol 'Holloway.'"

5,001. The same. The word-symbol "Heiskell."

5,005. Charles J. Moffett, Columbus, Ga. The word-symbol "Tuthina."

5,012. Ezra R. Wilbur, Fall River, Mass. The words "Doctor Wilbur's," and the fac-simile and portrait of E. R. Wilbur.

5,014. Company Fermiere, of the Thermal Establishment of Vichy, Vichy, France. "The oval medallion, with the representation of the thermal buildings."

5,024. Davis & Haydock, New York, N. Y. The word-symbol "Life" for the lungs, and the figure of a woman embracing a child.

5,026. Joseph J. Grindall, Baltimore, Md. The fanciful name "The Gipsey's Gift."

5,033. August H. Vordick, St. Louis, Mo. The fac-simile of his autograph.

5,035. Bedford Alum and Iodine Springs Co., New London and Lynchburg, Va. The figure of a fountain having at its base, or lower portion, the figure of a sea-dragon.

5,045. Albion P. Charles, Knoxville, Ill. The word-symbol "Eureka."

5,049. Dr. A. W. Chase & Son, Toledo, O. The letter "C.," as described in registered trade-mark of May 22, 1877, the portrait of Dr. Chase, and the fac-simile of his autograph.

5,087. Charles T. Hurlburt, Brooklyn, N. Y. The monogram consisting of the letters "C. T. H.," used in connection with the words "Hurlburt's Homœopathic Preparations."

5,094. Jacob M. Adams, Saratoga Springs, N. Y. The representation of a spouting spring, and the letter "G."

5,108. A. Vogeler & Co., Baltimore, Md. The words "Hamburger Tropfen."

Paints and Varnishes.

5,081. Heath & Milligan, Chicago, Ill. The word "Best" in red open letters, over which the name of the paint is printed in small black letters.

5,082. D. Rosenberg & Sons, New York, N. Y. The representation of a flag, combined with an annulus or belt.

Soap.

5,054. Luntz Brothers & Co., Buffalo, N. Y. The pictorial representation of a baby.

Dentifrices and Perfumery.

5,019. Rynear Otto Moses, New Orleans, La. The title "Philodante" (tooth friend), and the representation of a hand holding a tooth-brush, etc.

5,048. E. W. Hoyt & Co., Lowell, Mass. The word-symbol "German" (Cologne).

LABELS REGISTERED IN JULY, 1877.

[Concluded.]

1,124. "Mathis Dysentery Remedy." Charles B. Mathis, Toms River, N. J.

1,125. "Dr. Pierce's Favorite Prescription." R. V. Pierce, Buffalo, N. Y.

1,126. "Dr. Pierce's Compound Extract of Smart Weed." The same.

1,127. "Lundberg's Triple Extract of Jockey Club." Young, Ladd & Coffin, New York, N. Y.

1,128. "Nature's Remedy, Bedford Alum and Iodine Mass." Bedford Alum and Iodine Springs Co., Lynchburg, Va.

1,129. "Certain Cure for Headache." Geo. D. Coaney, Bayonne, N. J.

1,130. "Marvellous Cure for Chills and Fever." The same.

1,131. "Kidney Tea." Benjamin W. Dyer, New York, N. Y.

1,134. "Pennsylvania Baking Powder." H. C. Hopper, Philadelphia, Pa.

1,135. "Moody's Concentrated Fluid Extract of Sarsaparilla, Stillingia, and Yellow Dock." John C. Moody, San Francisco, Cal.

1,136. "Madame Lang's Perfect Nurser." Jeremiah Quinlan, New York, N. Y.

1,137. "Sanderson's Soap Crystals," Sanderson, Buchanan & Co., Chicago, Ill.

1,138. "Extract Florida Bouquet." H. Edward Windel, Philadelphia, Pa.

LABELS REGISTERED DURING AUGUST, 1877.

1,150. "Dr. Adam Bell's Fit Cure." Specific Medicine Co., St. Louis, Mo.

1,151. "St. Louis Dental Co." J. Speyer & E. C. Chase, St. Louis, Mo.

1,153. "Dr. Sanford's Liver Invigorator, or Liver Remedy." Samuel T. W. Sanford, Long Island City, N. Y.

1,156. "Neufeld's Italian Balm." John Hart & Abraham A. Myers, Lancaster, Pa.

1,157. "Clifford's Febrifuge." Joseph C. Richardson, St. Louis, Mo.

1,158. "Clifford's Febrifuge, or Fever and Ague Cure." The same.

1,159. "Directions for Using Clifford's Febrifuge." The same.

1,162. "Rocky Mountain Cough Syrup." W. H. Culmer, Salt Lake City, Utah Ter.

1,166. "Dr. Judge's Oxy-hydrogenated Air." J. D. Judge, Boston, Mass.

1,167. "Lautz Brothers & Co.'s Stearine Soap." Lautz Brothers & Co., Buffalo, N. Y.

1,168. "Murison's Catarrh and Bronchial Fumigator." James Murison, St. Louis, Mo.

PATENTS GRANTED DURING JULY, 1877.

[Concluded.]

July 24th.

Alkali, process and apparatus for putting up caustic, Hall & Hine	193,330
Can for packing and shipping paints, H. H. Hull	193,407
Cans for petroleum and other fluids, making paper, E. Waters	193,387
Dental drill, E. Osmond	193,456
Dental engine, tool stock, E. Telle	193,429
Evaporating pan, J. W. Miller	193,539
Exercising machine, J. P. Marsh	193,528
Filtering and cooling apparatus, J. W. Webb	193,432
Gymnastic instrument, indoor, C. Clemm	193,449
Medicinal compound, Fixmer & Jansen	193,326
Ozone generator, H. Spindelon	193,386
Refrigerating by means of ammonia, R. H. Lucas	193,375
Scales, weighing, A. Turnbull	193,576
Show-case, J. Hey	193,334
Sirup and mineral water, etc., H. L. Bowker	193,476
Sugar-process for the manufacture of milk, L. H. Witte	193,436
Syringe, C. E. Griswold	193,368
Vacuum cans, heating apparatus for, D. B. Cobb	193,488
Vinegar generator, Eisenbeis and Nau	193,324

July 31st.

Bottle-stopper, D. G. Hubbard	193,610
Corks from bottles, etc., device for preventing the unauthorized removal of, C. L. Bell	193,684
Filter and cooler, Peter and Walter	193,722
Hydrocarbon oils, production of deodorized heavy, J. Merrill (reissue)	7,826
Measure, liquid, L. B. Healey	193,761
Paint, D. E. Breinig	193,636
Spectacle frame, F. A. Wilson	193,739
Spectacles, indicator for, A. & B. Kent	193,660

Patents Granted during August, 1877.

August 7th.

Ammonia salts, obtaining, S. Cabot, Jr	193,920
Bottle-closing device, W. H. Hicks	193,870
Evaporating-pan, W. M. Dixon	193,934
Fertilizer, C. F. Panknin	193,890
Paint, mixed, W. Longman	193,974

July 14th.

Bottle-stopper, W. C. Hornfager	194,088
Bottle-stopper, W. Morgenstern (reissue)	7,847
Bottle-stopper, C. E. G. Winter	194,204
Can and measure combined, J. Sears	194,112
Copying book (for prescribers), W. A. Anderson	194,026
Evaporating-pan, H. Wood	194,283
Filter-press, J. Bowing	194,124
Furnace-stand, portable, J. N. Muller	194,101
Oil, grease, etc., process and apparatus for cleansing and purifying, R. D. Turner	194,275
Painter's striping instrument, L. Homan	194,039
Phosphoric acid used in manufacture of gelatine, recovering, N. B. Rice	194,050
Spirits from spent charcoal of rectifying filters, recovery of, E. A. McKeever	194,256

August 21st.

Bottle-stopper, W. Morgenstern	194,427
Bottle-stopper, T. A. Weber	194,491
Chair, invalid, Smith & Reily	194,477
Egg-tester, W. W. Dunbar	194,505
Fruit-press, G. A. Newsam	194,457
Mineral wool, treating, A. D. Elbers	194,422
Nursing-bottle, M. A. Michaels	194,454
Spectacles, L. Franklin	194,345

August 28th.

Barrel for holding volatile liquids, R. M. Munroe	194,529
Bottling-machine, W. A. Ross	194,726
Electro-therapeutic belt, J. Hobbs	194,520
Measuring and registering device for ascertaining the quantity and quality of distilled liquids, C. R. Wedelin	194,630
Medicine, horse and cattle, P. H. Rymal	194,727
Oil cabinet, J. S. Gold	194,596
Ozone machine, A. W. Sangster	194,729

PRESCRIPTIONS AND FORMULÆ.

◆

Elixir of Thuja Occidentalis.

℞. Thuja occid. .... ℥ xij.
Alcohol,
Glycerine................āā equal parts, q. s.

Percolate to 12 fluid ounces and set aside. Continue percolation to 12 fluid ounces more, evaporate to 6 fluid ounces, and mix with the first portion. Add an equal quantity (18 fluid ounces) of simple elixir. Each fluid drachm represents 20 grains of Thuja.

Glyoerate of Thuja Occidentalis.

℞. Thuja occid. .... ℥ viij.
Glycerine,
Alcohol................āā equal parts, q. s.

Percolate to ℥ viij., and evaporate to ℥ iv.

Fluid Extract of Thuja Occidentalis.

℞. Thuja occid. .... ℥ xvj.
Alcohol................ ....q. s.

Percolate to ℥ x., and set aside. Continue the percolation until the Thuja is exhausted, and evaporate the product to ℥ vj., to which add the first portion.

[The above formulæ have kindly been furnished us by Mr. William H. Lawes, of 259 Eighth Avenue, corner 23d street, who has for some time past prepared Thuja after this manner for the use of Prof. James R. Leaming, and others.]

Hydrobromate of Quinia for Hypodermic Use.—Dr. Jas. E. Morris, of Belleville, Texas, sends to the *Medical Record* a formula for a solution of hydrobromate of quinia in alcohol, grain for minim; to this solution water may be added in any proportion. When used hypodermically it is said to act promptly, and leave no scar. Among the advantages claimed for the solution, are its ready absorption, its quieting influence upon the nervous system, and the absence of fungous growths—the latter being attributed to the presence of alcohol.

Honey in Tinctures.—Tinct. cardam. co. and tinct. opii camph. both contain honey. Since the proportion is so small (1:20 and 1:16) that it cannot be of any moment, might the honey not be replaced by simple syrup?—Hans M. Wilder in *Am. Journ. Pharm.*, 1877, 440.

Lycopodium in Mixtures.—In order to make lycopodium miscible with water, it becomes necessary first to rub it dry under strong pressure (to powder it, as it were) before adding the water. A little alcohol (1:16) much facilitates the rubbing, and dispenses with the extra pressure. The lycopodium has to be rubbed until it forms a granular mass.—*Ibid.*

Volatile Liniment.—In one of the earlier volumes of the *Pharmacist*, R. Rother recommends the addition of a little oleic acid to the liniment of the pharmacopœia. This is a good idea; it prevents the separation so familiar to all, keeps it from solidifying, and makes it quite white. By the use of oleic acid, it matters not what kind of oil is taken; 6 to 10 drops to the pint of liniment is sufficient.—*Ibid.*

Hydrated Oxide of Iron.—The U.S. Pharm. precipitates solution of tersulphate of iron with water of ammonia, and washes it on a muslin strainer. In cases of emergency, the Pharmacopœia permits the precipitate to be merely pressed as much as possible while on the strainer. The procedure of the German Pharmacopœia is, however, quicker and easier. Sixty parts of solution of tersulphate of iron are mixed with 120 parts of water, and precipitated by a mixture of 7 parts of calcined magnesia and 120 of water. Shake well together, and dispense. In arsenic poisoning, certainly no objection can be found against the presence of sulphate of magnesia.—Hans M. Wilder, in *Am. Journ. Pharm.*, 1877, 440.

Copaiva Pills.—The U. S. Pharm. makes a pill mass by adding ʒj of calcined magnesia to 2 troy oz. of copaiva, which mixture after several hours becomes solid enough to be made into pills. Unhappily, these pills are so seldom prescribed that few keep them ready made, and have to make them when called for. By using as much calcined magnesia as balsam of copaiva, a mass will be obtained which has sufficient consistence to enable it to be rolled out at once. The addition of one drop of water to each drop of balsam facilitates the solidification. If it is found desirable to prevent these pills from getting stone-hard, Hager, in his *Praxis*, recommends the addition of bees-wax: 200 copaiva, 20 bees-wax, 10 calcined magnesia, 2 water. Pills, or rather boles, of copaiva and cubebs are often prescribed by German physicians. The German apothecaries have for many years kept on hand a mixture of 1 bees-wax and 2 copaiva, of course taking a corresponding quantity of this mass (2 balsam = 3 mass) to make the boles.—*Ibid.*

Emulsion of Monobromated Camphor (*Lepage*).—Dissolve 1 part of monobromated camphor in 6 parts of almond oil with the aid of a gentle heat. Seven parts of the solution are mixed with 3 parts of powdered gum arabic, suspended in 6 parts of water. The necessary amount of syrup and water is then added in the usual manner.

To Clean Vessels that have contained Kerosene.—Wash the vessel with thin milk of lime, which will form an emulsion with the petroleum and remove all traces of it. By washing a second time with milk of lime and a very small quantity of chloride of lime, and allowing the liquid to remain in the vessel about an hour, and then washing it with cold water, the smell may be removed. If the milk of lime be used warm instead of cold, the operation will be rendered much shorter.

Liquid Shoe-Polish.—The following is from a German source: Dissolve 3½ oz. of shellac in a half-pint of alcohol. Rub smooth 25 grains of lamp-black with 6 drachms of cod-liver oil, and mix. A few drops are to be applied to the leather with a sponge.

To Remove Silver Stains from Fabrics.—This process is said to be especially successful in removing spots from materials which have been several times washed. First prepare a saturated solution of chloride of copper, dip the spotted piece in the solution, and allow it to remain some minutes, or according to the character of the stains. Then rub the stains with a crystal of hyposulphite of soda. When neutral chloride of copper is used, the color of the stuff does not change. This process can be repeated.—*The Photographic News.*

Gliricin is the name of a much-lauded rat-poison, made by an apothecary (Mr. Heinersdorf) of Culm. It is prepared by mixing finely cut fresh squill root with about half its weight of rye-flour, and as much fat, in a mortar, and passing the whole mass afterwards through a sausage-machine to insure a better division. It appears in form of a confection, and is said to be very deadly to all rodent animals.

Honey Wine.—Dissolve 30 pounds of honey in 50 quarts of water in a clean vessel. Boil the solution gently for two hours, skim, and let cool. Transfer it to a cask, suspend in it, through the bung-hole, a small bag containing a nutmeg and 1 drachm of cinnamon in coarse powder, and allow it to ferment. By adding bilberry juice, it may be colored handsomely red. When the fermentation is finished, it is allowed to deposit for three months before use. Another name for this is "mead."

Porcelain Cement.—Transparent gelatine, or good glue, is cut into small pieces, covered with a little acetic acid, and gently heated until it has melted together to a clear homogeneous mass, which hardens on cooling. When using it the warmed broken surfaces are brushed over with a small quantity of the cement, previously liquefied by warming, firmly pressed together, and allowed to remain at rest for about 24 hours.

Nachtmann's Miniature Leech-pond.—This has been highly recommended in a report to the Imperial Academy of Sciences of Vienna, and also by the Austrian Centennial Commission. It consists of wood, and contains two compartments—one large square one, which is to be filled with pieces of rich turf, and a smaller oblique space, to be filled with water, which gradually flows off through a pipe into the other reservoir. The leeches are said to remain entirely healthy and lively, and even to breed in this pond.

New Copying Ink.—A solution of extract of log-wood, showing 10° on Beaumé's scale, is mixed with 1 per cent. of alum, and sufficient lime-water to produce a permanent precipitate. A *few* drops of a dilute solution of chloride of lime are then added, just sufficient to impart to the mass a distinct bluish-black color, and afterwards dilute hydrochloric acid is added in drops, until the color has been changed to a distinct red. A sufficient (but small) quantity of gum is now added, and finally 0.5 per cent. of glycerine. This ink turns rapidly blue, or bluish-black, retains its fluidity, and copies easily.—(W. GINTL).

Indelible-ink Pencils have been patented by J. Fröscheis in Nuremberg. They only require to be wetted before marking the linen, or other material, and the application of a hot flat-iron at the back of the writing brings out the color, which is said to be absolutely indelible.

Purification of Potassium Cyanide.—This may be accomplished by Eneu Loughlin's method (*Am. Chem.*, v., 396), which consists in treating the commercial salt with carbon disulphide, which only dissolves the pure cyanide, and evaporating the solution.

Gong-metal, such as is used in China for the manufacture of the best gongs, is composed of iron 1, copper 82, and tin 17 parts.

Tinted Paper, for covering corks (Germ. Tekturpapier), may be prepared in any desirable shade as follows: 1 gm. of any aniline color is dissolved in 30 gms. of strong alcohol, 300 gms. of distilled water are added, and finally a solution of 1½ gm. of tannin in 15 gms. of alcohol. The tannin acts as a mordant. Moderately-sized white paper is spread on a marble-slab, or other smooth, hard surface, and the coloring liquid is applied in even horizontal lines by means of a small sponge. The paper is then hung up to dry, and may be covered after a few days with a concentrated solution of sodium silicate, to every 100 parts of which 10 parts of glycerine have been added, if it is desired to impart to it a gloss.

Remedy in Typhoid Fever.—A new remedy, proposed by Dr. Netter, of Strassburg, to be used in typhoid fever, has been published in the *Siècle*. Its salutary effects are officially authenticated. It consists of a decoction made of 1 litre barley-water, 100 grammes vinegar, and 120 grammes liquid honey, with which the throat, mouth, and nares are to be washed out, in order to remove organic matters which are secreted and deposited there, and which decompose and are likely to be swallowed or reabsorbed with increased toxic effects.

To make Shoes Water-tight.—The following recipe is from the *Droguisten Zeitung:* A litre of boiled linseed-oil, 125 gm. of mutton suet, 46 gm. of wax, and 32 gm. resin, are melted together on a charcoal fire, under constant stirring, and the melted mixture applied to the well cleaned and dried shoes. The leather retains its full elasticity, and becomes absolutely impervious to water.

Corizzino.—This is the name of a new kind of snuff, highly recommended in coryza. It consists of 10 parts sodium salicylate, 20 parts powdered rose-leaves, and 70 parts good ordinary snuff.

Silvering of Glass.—Prof. Himly recommends the following method: Dissolve 17 parts of silver nitrate and 28 parts of Rochelle salts, each separately in distilled water, and mix the solutions. A curdy precipitate of silver tartrate is formed, which settles soon to the bottom. The supernatant liquid is poured off, the precipitate is washed two or three times by decantation, and finally preserved, covered with distilled water, in a glass-stoppered vial. When desiring to use it, the mixture is well shaken, and very dilute ammonia is added (under shaking), until only a small quantity of silver tartrate is undecomposed. *All excess of ammonia must be avoided.* After a few minutes the liquid begins to deposit metallic silver upon the sides of the vial, but this action is retarded by adding a sufficient quantity of distilled water to correspond to the volume or surface of the object to be silvered. As soon as the liquid has become clear, from the deposition of the silver tartrate still present in excess, the clear liquid is poured into or upon the glass object. It at once begins to act, and after 20 minutes the deposition is complete.

To Impart a Bright Green Color to Preserved Vegetables.—Mr. H. Guillemare has made a communication to the French Academy (in the session of April 9th) in regard to a new process for preserving the bright green color of preserved vegetables without the aid of copper. This consists in immersing the vegetables, before final boiling in the tins, into boiling water containing a lake of chlorophyll. The lake is obtained by treating green parts of plants (spinach or leaves of leguminous plants) with solution of soda, precipitating with alum, and dissolving the resulting precipitate in alkaline phosphates.

To remove the Tin from Tinned-Copper Vessels.—According to Prof. Boettger, this may be accomplished with ease by filling the vessels with, or immersing them into, a concentrated solution of ferric chloride. In a few minutes the coat of tin will have disappeared, and it only remains to scour the vessels with sand moistened with very dilute hydrochloric acid.

Formulæ for Perfumes, by William Saunders.

[*Continued from page 92.*]

Millefleur.

Otto rose, virgin	1	drachm
" red cedar wood (true)	1	"
" orange (new)	1	"
" pimento	20	minims
Ext. orris	6	ounces
" jasmin	2	"
" styrax	1	ounce
" tonka	4	ounces

Pure spirit, sufficient to make 4 pints.

In this as well as in all the following extracts, before adding the last portion of the spirit, replace as much of it with water as the perfume will bear without becoming milky, which will vary from two to eight ounces or more. This addition will make the perfume softer.

Ylang Ylang.

Ext. tonka	3 ounces
“ musk	4 “
“ tuberose	4 “
“ cassia	4 “
“ orris	8 “
Otto orange (new)	2 drachms
“ neroli super	½ drachm

Pure spirit, sufficient to make 4 pints.

Spring Flowers.

Ext. orris	4 ounces
“ jasmin	4 “
“ musk	4 “
Otto bergamot	2 drachms
“ neroli super	½ drachm
“ verbena (true)	10 minims
“ red cedar wood (true)	1 drachm
Benzoic acid	1 “

Pure spirit, sufficient to make 4 pints.

Wood Violet.

Ext. orris	12 ounces
“ tuberose	2 “
“ jasmin	1 ounce
“ musk	4 ounces
Otto bergamot	2 drachms
“ lavender (English)	1 drachm
“ verbena (true)	10 minims
“ amygd. amar	12 “
“ coriander	6 “
“ sweet flag	4 “
“ bay leaves	4 “
Benzoic acid	1½ drachms

Pure spirit, sufficient to make 4 pints.

West End.

Ext. orris	12 ounces
“ jasmin	4 “
“ musk	8 “
“ cassia	4 “
“ styrax	1 “
Otto bergamot	3 drachms
“ verbena (true)	15 minims
“ neroli super	½ drachm
“ rose, virgin	1 “
“ red cedar wood (true)	1 “
Benzoic acid	1 “

Pure spirit, sufficient to make 4 pints.

Stephanotis.

Ext. cassia	4 ounces
“ tuberose	4 “
“ jasmin	2 “
“ musk	8 “
“ orris	8 “
“ tonka	3 “
Otto rose, virgin	1 drachm
“ neroli super	½ “
Benzoic acid	1 “

Pure spirit, sufficient to make 4 pints.

Rondeletia.

Otto lavender (English)	1 ounce
“ cloves	½ “
“ bergamot	½ “
“ rose geranium (Turkey)	2 drachms
“ cinnamon (true)	20 minims
“ rose, virgin	10 “
“ santal flav	1 drachm
Ext. musk	2 ounces
“ orris	4 “
“ vanilla	2 “
Benzoic acid	1 drachm

Pure spirit, sufficient to make 4 pints.

Frangipanni.

Ext. orris	4 ounces
“ tuberose	2 “
“ musk	4 “
“ vanilla	2 “
“ jasmin	2 “
“ styrax	1 “
Otto neroli super	1 drachm
“ rose virgin	½ “
“ santal flav	1 “
“ red cedar wood (true)	1 “
“ pimento	½ “
“ cassia	20 minims
“ bergamot	½ drachm
“ ginger	4 drops
“ lavender (English)	6 “
Benzoic acid	2 drachms

Pure spirit, sufficient to make 4 pints.

Clove Pink.

Ext. jasmin	12 ounces
“ orris	12 “
“ musk	8 “
Otto rose, virgin	1 drachm
“ cloves	2 drachms
“ neroli super	1 drachm
“ pimento	10 minims
“ patchouly	20 “
“ santal flav	2 drachms
Benzoic acid	1 drachm

Pure spirit, sufficient to make 4 pints.

Violet.

Ext. orris	2 pints
“ tuberose	4 ounces
“ vanilla	3 “
“ musk	3 “
“ tonka	2 “
Otto rose, virgin	1 drachm
“ neroli super	40 minims
“ pimento	12 “
“ bergamot	1 drachm
Benzoic acid	1 “

Pure spirit, sufficient to make 4 pints.

Mignonette.

Ext. orris	12 ounces
“ tuberose	4 “
“ vanilla	4 “
“ musk	2 “
Otto rose, virgin	1 drachm
“ neroli super	1½ drachms
“ pimento	12 minims
Benzoic acid	1 drachm

Pure spirit, sufficient to make 4 pints.

ITEMS.

A New Botanical Survey.—A correspondent of the *New York Tribune*, writing from Washington, says:—“A letter written to Dr. Hayden by Sir Joseph Hooker, Director of the Royal Botanical Gardens at Kew, a day or two before his departure for England, outlines some important botanical work projected by himself and Dr. Gray, of Harvard. The following is an extract from the letter:

“‘We shall hope to take Colorado as a central point for opening out the main features of the flora of North America, and discuss them in relation to it and to one another in a rather detailed manner. We hope to bring out clearly the contrasts between the Rocky Mountain flora and that of the forest regions of the East and West, including in the botanically defined Rocky Mountain region the whole of Central unforested North America from the west of the Mississippi to the base of the Sierra Nevadas. The region thus defined will be divided into, first, an Eastern plain; second, a central Rocky Mountain district proper, extending from Pike's Peak to the Wasatch Range; third, a Western district, that will include the desert country. The Rocky Mountain proper district again will be divided, vertically, into an Alpine, and, perhaps, a sub-alpine and lowland flora. The comparison of the flora with that of the mountain ranges of Asia and Europe will follow; and then we must see what we can do in the way of correlating any of the features with the glacial epoch and Lesquereux's vegetable fossils.'

"Sir Joseph Hooker expects to return to the United States in a few years, for the purpose of making the flora of the Atlantic coast an object of special scientific research."

Fatal Tobacco-Poisoning.—English journals report the death of a boy, three or four years of age, from tobacco-poisoning, who had used an old wooden pipe for blowing soap-bubbles. Although well at the time, he became sick an hour afterwards, presenting symptoms of narcotic poisoning, and died on the fourth day without rallying.

A Pharmaceutical School is about to be added to the University of Berlin, under the direction of Professor Oscar Liebreich, in which pharmacological, physiological, and chemical researches on medicines and their actions will be carried on. The Prussian Government is about to erect a building for the laboratory.

Destruction of a Turkish Industry.—Kezanlik, the city of roses, which has not long been relieved from the presence of the marauding Cossack, was until lately the centre of the traffic in attar of roses; but the beautiful plain, with its vineyards and its clumps of walnut trees, and its great gardens of roses, has been passed over four times by alternate waves of battle. The march of armies and bivouacs of 100,000 men have ruined the gardens, and the town itself was lately burned, the Turkish part first, and then the Bulgarian part.

It has been suggested that India is quite able to supply the deficiency, but this is doubtful, and there is a significance in the fact that the price of "rose oil" has made a great leap upwards within the last few weeks, the best being quoted in the British market at 40 shillings per ounce, with every probability of a further advance. Dr. Septimus Piesse, an authority on all matters relating to perfumes, states the average yearly production of attar in the now devastated districts to have been as follows: District of Kezanlik, 1,736 pounds; Gucupso, 754 pounds; Karadja-Bahg, 384 pounds; Yeni-Saghra, 108 pounds; Zoaghra, 98 pounds; say a total of 3,470 pounds, or 55,520 ounces.

The University of London has decided to admit women to its medical course.

The Revenue or Patent Medicines in Great Britain, during the year ending March 25th, amounted to £112,978.17.5, after an allowance of £5,242.15.2½ in discounts, etc.

Gastric Juice.—According to recent experiments of M. Laborde (Société de Biologie), free hydrochloric acid does not exist in gastric juice in the normal state.

School of Pharmacy in Paris.—A great school of pharmacy is being constructed in a portion of the grounds attached to the Luxembourg, at Paris, which will occupy the space of 17,000 square yards, and of which the laboratories will accommodate six hundred working students. The school will be opened in 1880.

Vaseline has been offered for sale in Potsdam, near Berlin, as a remedy for internal diseases. The vender was arrested and sentenced by the police justice to a fine of thirty marks, or, in lieu thereof, seven days' imprisonment.

The Illegal Exercise of Pharmacy in France. During the past year the following cases have been adjudicated before the Tribunal of Paris: ten persons, among them three pharmacists, were sentenced for selling secret remedies; the fines amounted to 25 francs in two, 50 francs in four, 100 francs in three cases, and 600 francs in one case. For carrying on the business under a borrowed diploma, two persons were sentenced to 500 francs and damages. For establishing a company with unlicensed persons, two others were sentenced to a fine of 500 francs and closure of the shop; and two were similarly sentenced for entering into partnership with persons having a diploma which did not entitle them to practise in the Departement of the Seine. Two persons were fined in 610 and 500 francs for carrying on the business without diploma, and two females were sentenced to 500 francs each for illegal exercise of the business of herbalists. Forty herbalists were sentenced to fines varying between 25 and 1,000 francs for illegally practising pharmacy. In all there were sixty sentences, and the fines altogether amounted to 26,252 francs. One case deserves further mention: A physician had ordered for one of his patients a mixture containing calcium phosphate and syrup of orange. The apothecary not having either article in stock, substituted in place thereof a mixture of cod-liver oil, quinia, and antiscorbutic syrup (see NEW REM., June, p. 184). He was sentenced to a fine of fifty francs, and publication of the sentence in three newspapers, at his own expense.

American Leather-cloth containing Lead.—The Imperial German Bureau of Health warns from the use of "American Leather-cloth," which is in great demand as a covering for children's carriages, and which contains no less than 42.7 per cent. of lead (calculated as metal). Children are thereby constantly exposed to slow lead-poisoning.

Obituary.—H. A. Weddell, in Poitiers, France, lately died at the age of 58 years. He was well known as an authority on the botany and chemistry of cinchona.

A Singular Offering.—The Medical Faculty of the University of Giessen, in accordance with a long-established custom among German universities, has presented to Prof. Phoebus, on the occasion of his fiftieth anniversary of his taking the degree of Doctor of Medicine, "as a testimonial of their particular regard," a treatise on "The Conditions of the Passage of Air into the Intestinal Canal during Respiration."

John Broughton, the chemist of the Cinchona Plantations in British India, has not been heard of since undertaking a journey from Ootacamund to Madras, during last year. As he was known to have a large sum of money in his possession, it is supposed that he has been waylaid and murdered.

The Development of Color in Flowers.—In the journal of the Scottish Meteorological Society, Mr. Buchan has given some interesting information with reference to the relation which the colors of flowers have to the date of flowering. He shows that "the *blues* are, on the average, considerably the earliest in flower; then follow in order the *whites* and *purples*, and lastly, the *yellows* and *reds*. It follows that the plants included in the British Flora clearly tend to arrange themselves, as regards the dates of flowering, in the colors of the spectrum, the average earliest being those which are nearest the part of the spectrum where the actinic rays are at the maximum."—*Medical and Surgical Reporter.*

The Risk of using Sugar containing Ultramarine.—Balland cautions from the use of impure or artificially "whitened" sugar, in the preparation of fruit-juices, lemonades, etc. Many manufacturers of sugar are in the habit of masking the yellowish tint of imperfectly decolorized sugar, by adding ultramarine; the quantity of the latter, although very small, is nevertheless enough to impart to acid fruit-syrups a bad taste of sulphuretted hydrogen. Ultramarine may be recognized by dissolving some sugar in 10 times its quantity of water, and examining the deposit after 24 hours. (*Zeitsch. Oesterr. Ap.—V.*)

NEW REMEDIES.

AN ILLUSTRATED MONTHLY TRADE JOURNAL OF
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FRED'K A. CASTLE, M.D., - - EDITOR.
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EDITORIAL.

THOSE who have had much to do with medical literature during the past ten years cannot have failed to notice an increase in the number of pamphlets on all sorts of subjects, which have been published by the authors of papers. We do not know that we are especially favored in the receipt of this class of literature; but, either privately, or in editorial ways, we do accumulate a large amount of it in the course of a year, and have been obliged to solve the question, "What will he do with it?" by binding. One difficulty which meets us at the outset is the variation in sizes. The majority of writers have been sensible enough to adopt the octavo form of pamphlet; but there still remains a provoking number who publish larger and smaller sizes, embracing oftentimes papers of great value.

There are many reasons for having a variety in the proportions of bound volumes, but these considerations will hardly apply to pamphlets. In the case of larger sizes, the binder's knife generally corrects the difficulty at the expense of the margins, but the small ones can only be *stretched* by pasting each leaf into an octavo sheet, which has a hole in its centre large enough to permit the text on the back of the leaf to be read. This involves considerable expense, and is not likely to be done unless the pamphlet is of unusual value. If our friends who wish to republish papers which have once appeared in journals having double-column pages, like the *Medical Record*, *Louisville Med. News*, *Amer. Bi-Weekly*, *Medical Times*, *Med. and Surg. Reporter*, *Clinic*, or NEW REMEDIES, would have the column leaded and broken up, so as to occupy the centre of an octavo page, having a broad margin on the outer and lower edges, similar to the large paper copies of choice editions, this difficulty would be at once overcome, and the pamphlets would really be handsomer in the estimation of a lover of books than those having the usual arrangement of an octavo page. Another advantage to be gained by the plan proposed would be the use which can be made of the broad margins for the addition of notes and references by those who chose to make them.

THE attention of members of the American Pharmaceutical Association is urgently requested to the following extract from our report of the Transactions of the Association given in the September number:

> "Dr. Ad. W. Miller, of Philadelphia, the local secretary during the centennial year, made an important report on the unexpended balance in the hands of the Entertainment Committee of Philadelphia, in which he stated that a sum of $525.00 had been left over, which the committee tendered to the American Pharmaceutical Association, *provided* a like amount be added to it by the members of the association within one year from this session. This fund shall be known as the 'Centennial Fund,' and shall be applied to defray the actual expenses incurred by members in the pursuit of original investigations on behalf of the association."

The time is likely to slip by and the next meeting be in immediate prospect without the necessary steps having been taken to raise the amount mentioned. We believe that with little effort the money could be collected from members residing in two or three of our large cities, excepting, of course, Philadelphia, but the object to be accomplished is so closely connected with the interests of the profession generally, that it is quite desirable to have all who *can* contribute. To further this end, we shall be pleased to receive and publish the names of members of the association who will aid in raising the $525.00; together with the amount which they will be prepared to give when called on.

ANOTHER word on the subject of preparing journals for the mail. We would be extremely pleased if some of our contemporaries would abandon the practice of rolling their publications up like sections of a broomstick, instead of sending them flat, or with a single fold. It is a trial of both flesh and spirit to get the wrappers off, and next to impossible to prevent the journals curling up forever afterwards. We try to preserve our exchanges in good order for future reference, but confess to a temptation to consign to the waste-basket such intractable ones as will not lie in an orderly pile with their fellows.

OUR correspondents are respectfully requested to read the paragraph in italics which has for a couple of years appeared at the head of the column of "Notes, Queries, and Answers." It is not out of place in this connection to suggest that it is always advisable for them to mention the State in which they live, as well as the town, since the post-marks on the envelopes are not always legible.

THE Chicago Botanical Garden, concerning which we expressed ourselves so hopefully on page 292 of our last volume, has come to grief. After providing for its foundation, and enabling those who undertook its direct management to accumulate a large and valuable amount of material, the Commissioners of the South Park have ceased to recognize the political necessity for such an institution, and have suspended the appropriation of funds.

Upon the whole, Professor Babcock and his friends may congratulate themselves that they have saved their valuables from the fate which overtook the restorations of Mr. Waterhouse Hawkins in this city, and we hope they will take advantage of the truce to get them safely beyond the reach of political demagogues who, like the *honorable* Peter B. Sweeny, may probably see no better use for such "rubbish" than to fill up holes in the ground with it.

We would be glad if New York could offer an asylum, but for many reasons the prospect of a botanical garden here seems almost hopeless. In 1810 the Legislature of the State appropriated $74,268 for the purchase of the Botanic Garden which had been established by Dr. David Hosack (then Professor of Botany in Columbia College), which embraced about twenty acres; but immediately upon securing the money Dr. Hosack abandoned the study of botany for more lucrative employment. The garden was neglected by the College of Physicians and Surgeons, whose duty it became to care for it; the plants which survived were sent to the Bloomingdale Asylum, and we believe that Columbia College is receiving a handsome annual rental for the land, which is now covered with the most fashionable residences on the island. In view of the latter fact, one would naturally look to Columbia College as the first to lead a movement towards the establishment of such a valuable aid to science and education, but judging by the course usually pursued by rich corporations like that of Columbia College and the New York Hospital (whose governors, by the way, were actively interested in urging the State to purchase the garden of Dr. Hosack), any movement of this kind will be fortunate in avoiding their opposition, to say nothing of the assistance they might render.

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

◆

Fucus Vesiculosus and its Use in the Treatment of Obesity.

EXCESSIVE fatness has never been a noticeable characteristic of residents in the United States, and it is not easy to explain why it is that attention has recently been directed to the merits of certain remedies which are supposed to relieve this condition. It may be that the organization, a few summers ago, of a fat-men's club, which has since held annual meetings, and eaten annual dinners not within Mr. Banting's rules, has had something to do with it, but the connection is not very apparent. The remedy which claims at present most attention is the "bladder-wrack" (*Fucus vesiculosus* Lin.); one of the most common sea-weeds found on the coasts of Europe and America. For many years this and similar kinds of sea-weed have been the source from whence *kelp* is obtained, and their richness in iodine has led to their being sometimes employed in strumous affections and chronic skin diseases.

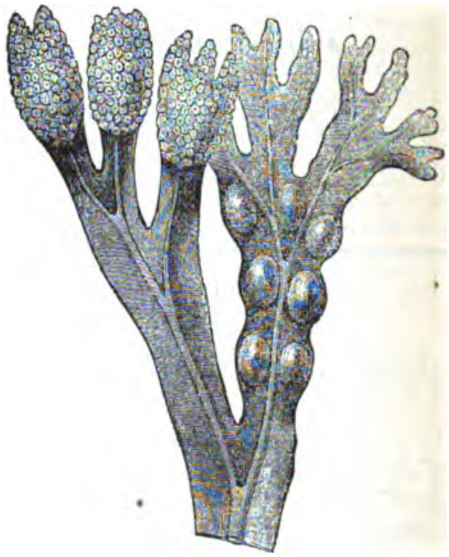

FIG. 1.—Fucus vesiculosus.

About the year 1862, Dr. Duchesne-Duparc, while administering a preparation of "bladder-wrack" in a case of chronic psoriasis, observed, quite unexpectedly, that although the skin trouble was not benefited, the patient, who was the subject of excessive obesity, lost flesh without suffering any disturbance of the general health. Subsequent to his paper on the subject (which appeared in the *Medical Times*, of April 10, 1862), Dr. Godefroy published in the *Rev. de Thérap.* of Sept., 1862, the results obtained by personal use of the remedy. In this instance 4½ grs. of an extract were taken thrice daily at the commencement of a meal, with the effect of reducing his weight nearly three and one-half pounds within thirty-four days. No change was made in the meantime in the ordinary mode of living, nor did his health suffer in any degree.

The most marked evidence of the action of the drug besides the loss of flesh, is said to be an increased secretion of urine, which presents upon its surface a blackish film.

These two papers embrace about all that has been written upon this use of the remedy, if we except the directions given by M. Dannecy * for preparing an extract. He says that the plant should be gathered about the end of June, and dried in the sun. When dried by artificial heat it does not become brittle, as it does when sun-dried, and it also retains its hygroscopic properties. When sufficiently dry it is coarsely powdered and macerated for three days with four times its weight of alcohol of 96%. At the end of this time it is expressed and the residue is twice successively treated in the same manner with alcohol of 54%. The tinctures are then mixed, the alcohol distilled off, and the remainder evaporated to an extract. Of this, 3¾ grains may be taken three times daily, and increased gradually to about three times that quantity. A syrup may be prepared by dissolving the extract in a little dilute alcohol and adding this to syrup in the proportions desired.

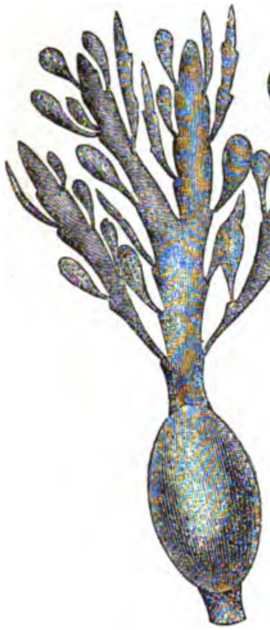

FIG. 2.—Fucus nodosus.

M. Duchesne-Duparc says that he has repeatedly been offered other varieties of *Fucus* and gulf-weed under the impression that they were the proper variety; and since he claims that the property of causing an absorption of fat-tissue resides largely if not entirely in *F. vesiculosus*, we give herewith illustrations which will render it easy to distinguish the latter from the varieties which resemble it.

The name "wrack" which is commonly given to the plants here shown, in the Channel Islands is *vraic*, and this is derived from the French *varec*, signifying *sea-weed*. A visitor to the sea-shore will find the rocks at low water covered with dark olive-green sea-weed, presenting a variety of shapes, and after a heavy wind great quantities of these, with other forms of vegetable and animal life, will be left on the beach in long rows formed by the wash of the waves. The Black Tang, or Bladder Wrack, is generally the most common in these collections. Its fronds are sometimes two or three feet in length, and fork again and again into what may be called branches. A stout midrib runs through the centre of each branch quite to the extremities of the fronds. Arranged in pairs along the branches, as shown in Fig. 1, are warty tubercles filled with air, which render the "wrack" buoyant. The tips of some of the fronds are swollen and covered with little tubercles, which when examined closely, will be found to contain the germs of the plant.

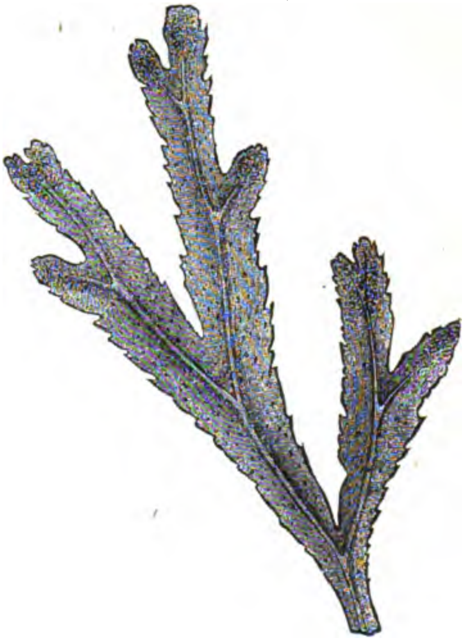

FIG. 3.—Fucus serratus.

The "Knotted Wrack" (*Fucus nodosus*), shown in Fig. 2, differs essentially in appearance from the variety just described; nevertheless it is very commonly mistaken for the *F. vesiculosus*, and Duchesne-Duparc attributes much of the reported want of success to the use of it instead of the proper variety.

Serrated wrack (*Fucus serratus*), Fig. 3, is a third and less common variety, but is nevertheless sometimes mistaken for the one above-mentioned. A midrib is present in its branches, which is not the case with *F. nodosus*, but it possesses no air-vesicles, and the edges of the fronds are jagged or serrated like the teeth of a saw.

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* *Journal de Pharmacie*, Nov., 1862, p. 434.

When not to Give Iron.

DR. MILNER FOTHERGILL says (*The Practitioner*) that as long as there is a rapid pulse combined with rise of temperature, so long must iron be withheld in the treatment of acute disease. As long, moreover, as the tongue is thickly coated, or red and irritable, it is as well to withhold chalybeates altogether. This is particularly true of phthisis. No matter what the other indications are, it is useless, and sometimes worse than useless, to give it without the tongue be clean, without irritability.

It may be laid down as a general rule that this toleration of iron diminishes as the age increases. Young children take iron well, and it is often well borne by them in conditions which in the adult distinctly forbid its use.

There is one condition where iron is absolutely forbidden, and that is the condition known as biliousness. As long as there is a foul tongue, a bad taste in the mouth, and fulness of the liver, with disturbances of the alimentary canal, iron is not only of no service, but positively does harm. Sir Joseph Fayrer's Indian experience is in full accord with this expression of opinion. In speaking of the treatment of hepatic congestion, accompanied by anæmia, he lays stress upon the resort to purgatives and vegetable tonics, and the avoidance of iron until the biliary congestion is removed. "When the portal circulation is relieved some preparation of iron may be useful."

When given in large doses iron always blackens the stools, but if given in moderate doses and well assimilated, this blackening is not so marked. The color of the stools, then, may be utilized as an indicator as to how far chalybeates are assimilated and are likely to be useful.

There are two different states in women where iron is either totally contraindicated or to be given with great caution. The first is a condition of amenorrhœa in florid, plethoric persons. The other is the opposite condition of menorrhagia in certain females. There are certain cases of menorrhagia associated with pallor and debility, where the usual compound of iron and extract of ergot is not so useful as a non-chalybeate treatment. In these cases it is not any imperfection in the process of blood manufacture which is to be remedied, for the blood is made rapidly and quickly, only to be lost at each menstrual-period. It is here desirable rather to limit the rapidity of the blood formation, so that when the general vascular turgescence of the menstrual period comes, it will not find the blood-vessels too distended with blood. This will lead to diminished catamenial loss, and so the blood-waste will be economized. According to the experience of Dr. Brown-Séquard and Dr. Hughlings Jackson, iron does not suit epileptics. It increases the tendency to fits. It may improve the general condition, but it aggravates the epilepsy.

The Adulteration of Expressed Oil of Almonds.

MR. J. D. BIEBER, of Hamburg, has ascertained that the larger portion of the commercial expressed oil of almonds (oil of sweet almonds) is either adulterated or entirely fictitious. In the most favorable cases peach-kernel oil is substituted in its place. The admissibility of the oil obtained from peach- and apricot-kernels might possibly be defended on the ground that the latter are nearly alike in chemical composition [?] and in price to the small Barbary almonds. The author has succeeded in finding a reliable reagent to distinguish the pure almond oil from sophistications. His results are based on experiments made with the oil of sweet as well as bitter almonds of all commercial varieties, and on those made with other oils. It was first ascertained that the age of the almond oil, or its manner of preparation (by cold or hot pressing), was of no influence upon its chemical behavior towards the reagent. This latter is prepared by mixing equal weights of pure concentrated sulphuric acid, red fuming nitric acid, and water, and allowing the mixture to cool. Mixtures made with five parts of oil and one part of the acid show the following characteristics:

Pure almond oil: a faintly yellowish-white liniment.

Peach-kernel oil: assumes at once the color of peach-blossoms, turning afterwards dark orange.

Sesame oil: first pale yellowish-red; afterwards dirty orange-red.

Poppy oil and walnut oil: a somewhat whiter liniment than pure almond oil.

Mixed with pure nitric acid of 1.40 specific gravity the behavior is as follows:

Almond oil: pale yellowish liniment.

Peach-kernel oil: at once a red liniment.

Sesame oil: dirty greenish-yellow; afterwards reddish.

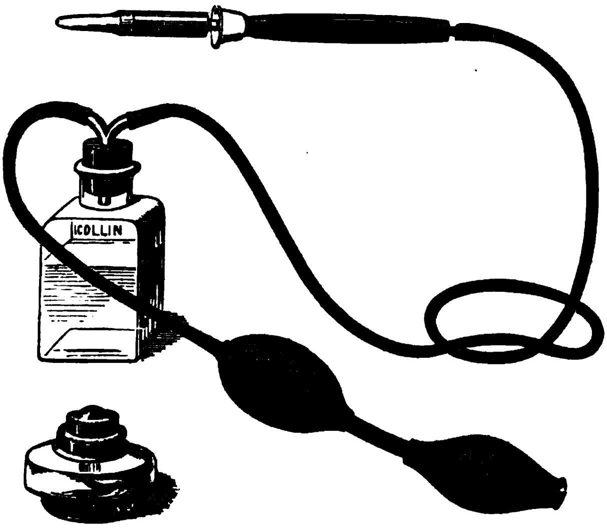
Poppy oil and walnut oil: an entirely white liniment. With the first-mentioned reagent (mixture of acids and water), an addition of five per cent. of peach or sesame oil may be readily recognized. By making a series of mixtures of almond and peach oil, differing by ten per cent. among themselves, it is easy to discover, with tolerable accuracy, the proportion of the two oils in an adulterated sample. In order to distinguish whether the foreign oil was sesame or peach oil, the reaction with nitric acid of 1.40 specific gravity is had recourse to. Besides the above-mentioned substitutes, there exist some other oils, chiefly prepared in France and Italy, which greatly resemble almond oil, and might be used as adulterants. One of these is the fatty oil expressed from the seeds of the stone pine (zirbel nuts, pine nuts), which has, however, not been examined by the author.

[A very common sophistication, namely, oil of mustard, has not been mentioned by the author; but it is well known that it is often sold for sweet almond oil. Ed. N. R.]—*Pharm. Zeit.*, No. 79.

Paquelin's Cautery.

Besides Tarnier's obstetrical forceps, the instrument which is attracting most attention in France just now is Paquelin's cautery. There are few things in the way of surgical operation that have not been attempted with it; even tracheotomy and external urethrotomy have been undertaken, so it is said. The instrument consists of the following parts:

1st. The cautery proper is made of a single sheet of platinum, the edges of which are joined without solder, and may be of different shapes to suit the various cases for which it is employed. It is mounted on the end of a nickel-plated copper tube, the free extremity of which is pierced with holes to allow the gases of combustion to escape, both together forming a hollow tube, closed at one end and open at the other.



Paquelin's Cautery.

Through this runs a smaller metallic tube from one extremity to the other, and projecting a short distance from the lower end, where it terminates in a male screw.

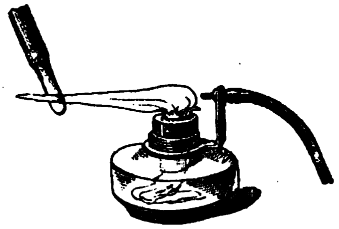
2d. A wooden handle with a cup-shaped shield, through which runs a metallic tube terminating at one end in a female screw, to which is attached the cautery, and at the other end in a cone.

3d. A thick rubber tube, one end of which is slipped over the cone at the end of the handle, and the other end is attached to one of the tubes in the flask.

4th. A flask with a rubber stopper, through which run two tubes which are joined at their lower extremities.

5th. A rubber tube with two bulbs similar to that used with Richardson's atomizer, the end of which is attached to one of the tubes in the flask as shown.

6th. A spirit-lamp, with a blow-pipe attached to it.



Lamp with blow-pipe attached.

The method of operation is as follows: Fill the flask two-thirds full of gasoline of a specific gravity of 720 grammes to the litre, and fix the stopper firmly. Attach the rubber tube to the blow-pipe. Then heat the extremity of the cautery in the flame of the lamp until it becomes slightly red, then blow gently by compressing the bulb until the cautery becomes bright red, when the tube must be removed from the blow-pipe and attached to the handle of the cautery, and the instrument is ready for use; its heat may be increased or diminished, according as the current is kept up by compressing the bulb quickly or slowly, a volume of gas mixed with air being forced into the hollow chamber of the cautery, where it ignites upon contact with the hot metal, and thus serves to keep up the heat of the instrument.

Easy Preparation of Platinum-Black.

An exceedingly active platinum-black, for converting alcohol into acetic acid, or for igniting hydrogen gas may be prepared, according to Prof. R. Böttger, as follows: To a solution of platinum chloride is added a just sufficient quantity of Rochelle salt, and heat is applied. As soon as the boiling-point is reached, carbonic acid gas is given off with great energy, and metallic platinum in very fine powder is immediately separated. This is collected on a filter, washed and dried at the ordinary temperature, when it is ready for use.—*Pharm. Centralh.*, 1877, 218.

Importance of Labelling Medicines.

In a paper read by Dr. R. C. Kedzie before the Michigan State Board of Health, at Lansing, on the 9th of October, the writer included the following sensible remarks:

"It has been proposed to have bottles made of different and characteristic forms for different kinds of medicines, that they may be distinguished by the touch, and thus recognizable in the dark. My advice is, not to go in the dark in any sense on so important a subject. In my opinion the only safe and feasible way to prevent accidents in the use of medicines is to label every medicine, giving the name and dose. If a medicine is not worth labelling, it is not worth keeping; label or burn. If from any cause a medicine has lost its label, or has never been labelled, never administer it to any person or animal in whose happiness, health or life you feel any interest or care. Never trust to your memory on this subject, or to the position in which you usually place a given bottle of medicine. Be sure you are right before you go ahead in administering any medicine whatever. The patient may die for want of medicine, but you have the consolation that he did not die by your act; but if he dies because of some substance you have mistakenly administered as medicine, your soul will be harrowed with unavailing remorse, more bitter than death and more cruel than the grave." —From the *Detroit Post.*

Detection of Tartaric in Citric Acid.

MR. CAILLETET recommends the following easy and practical method to recognize the presence of tartaric in citric acid. It depends upon the fact that potassium bichromate, in the cold, rapidly blackens tartaric acid, with disengagement of carbonic acid; its action on citric acid, on the other hand, is very slow, and results in imparting to it a coffee-colored tint. A cold saturated solution of potassium bichromate is prepared. Into a test-tube 10 c.c. of this solution and 1 gm. of the acid to be tested are introduced, and the mixture is stirred for a moment with a glass rod. After ten minutes, if the citric acid was free from tartaric acid, the mixture will still show the orange color of the bichromate. If, however, five per cent. of tartaric acid were present, the mixture will have assumed a blackish-brown color, and in presence of only one per cent. it exhibits the color of an infusion of coffee.—*Rép. de Pharm.*, 1877, 502.

Grindelia Robusta and its Use as a Remedy for Ivy Poisoning.

JAMES G. STEELE, of San Francisco, writes to the *Scientific American* that the Rhus toxicodendron is a very common cause of a great deal of misery and suffering in California, and contributes a paper on the properties of Grindelia robusta as a remedy, from which the following is taken:

"Dr. L. A. Canfield (deceased) of Monterey, Cal., was the first," so Mr. Steele says, "to call the attention of the medical profession to the therapeutic action of *Grindelia robusta* in cases of 'Oak Poisoning.' Some twelve years since he caused to be published, in the *Pacific Medical and Surgical Journal*, a short account of this plant, its botanical features, habitat, and medicinal value. My attention being thus directed to the plant, I procured specimens, and prepared various pharmaceutical compounds containing the virtues of the drug, which were prescribed by the medical faculty of this city, with sufficient success to warrant me in keeping a bountiful supply of the plant. It has been my practice yearly, during the months of May and June, to go into the rural districts and have gathered and dried in the shade one or two tons of *Grindelia robusta*.

"I have experimented in different ways to obtain a "Fluid Extract" which should fully represent the medicinal virtues of the leaves and flowering tops of the plant. The fluid extract, which is the most concentrated form of preparation used, contains in one pint the strength of sixteen troy ounces of the drug, and is made by the following process: A sufficient quantity of the carefully picked leaves and tops of the Grindelia are put into a suitable vessel and nearly covered with a mixture of one part of water to two of alcohol, allowed to macerate for twenty-four hours, a strong cover being laid over and pressed down with appropriate weights. At the expiration of this time the whole is transferred to a percolator with a stopcock attached; and after remaining for five or six hours, the resulting liquid is drawn off and the residue in the percolator taken, transferred to strong bags, and submitted to the action of a powerful press. The liquid from this is now mixed with that from the percolator and set aside. It is generally requisite to repeat the process with one-half the amount of menstruum, and the results being mixed together should measure one pint for every sixteen troy ounces of the drug employed. In case, however, the full measure is not obtained, enough alcohol is added to supply the deficiency, and the whole rapidly filtered and transferred to well-stoppered bottles. This process gives a clear, thin, nice-looking fluid extract, with a pleasant odor and characteristic aromatic taste, and which can be kept a long time, with usual precautions, without any deposit. It may be presumed that the medicinal virtues of the *Grindelia robusta* reside in the viscid and resinous juice before mentioned. Confirmatory evidence offers itself in the fact that the plants gathered from the lower and marshy grounds are more robust and succulent, the leaves and stalks larger and coarser in appearance and devoid almost entirely of the "balsam" before mentioned, and have little efficacy in the eruption of Oak Poisoning. The directions for its employment are as follows:

"For Poison Oak eruption, the best method is to mix one or two teaspoonfuls of the strong fluid extract of Grindelia with half a tumbler of cold or tepid water, and apply freely with a sponge or cloths dipped in the mixture to the parts affected. One or two applications will often suffice for a cure, but if the disease has been of long duration, several days may elapse before entire relief is obtained. In severe cases of poisoning, cloths dipped in the solution may be bound upon the parts and, if necessary, more of the fluid extract added. The most obstinate case of poisoning will be overcome by this mode of treatment, and immediately after the first application the most surprising relief is experienced. Another medicinal use has been found for *Grindelia* and its preparations. *Asthma* and kindred ailments have been made to succumb in a remarkable manner. For fear of tiring the patience of your readers and with a due regard to the value of space, I will forbear further mention of this, save to remark that in case it may prove of interest to excite inquiry, something could be written of our experience of the value of the drug in this connection.

"The *Grindelia robusta* and its various medicinal preparations can be found in well-appointed pharmacies in the large Eastern cities; and in case none is to be had at hand, application to the writer will result in discovering a way to procure it in any desired quantity."

Notes on Chemical and Pharmaceutical Products.

(Condensed from the September Report of Gehe & Co., of Dresden.)

Carbolic Acid, crystallized.—It is impossible to guarantee its absolute freedom from color, after long keeping, since air and light exert a considerable influence upon the pure acid. The usual method of packing in blue glass is incapable of preventing this change, and is only apt to deceive purchasers by masking any acquired tint. Its sole usefulness, perhaps, consists in attracting attention to the dangerous contents.

Copaivic Acid, crystallized, has been in considerable demand during the last six months.

Gallic Acid.—While on the one hand science has recognized this substance to be a prior step in the production of tannic acid, it is in practice a secondary or by-product in the preparation of the latter, and hence exceedingly low in price.

Lactic Acid.—The hypnotic effects of this acid, which were predicted by chemical physiology, have been confirmed. But the simultaneous disturbance of digestion, resulting from its frequent use, has perhaps done as much damage on one side, as it has benefited the patient on the other.

Phtalic Acid.—This acid, which is so important in the preparation of some aniline colors, is at present in great demand. (See page 261.)

Salicylic Acid.—The consumption of this article for technical purposes has considerably increased. Its use in the conservation of ale and beer has become particularly important. Experience has shown that by adding the acid to the fermenting tubs, a good deal less is needed than when it is added to the beer in casks. In the former case only 60 milligrammes per litre are required, in the latter case, 120–150 milligrammes. Besides, it is asserted that the yeast obtained in presence of the salicylic acid keeps much better, and is not at all injured as a fermenting agent.

Ammonium phosphate is in increased demand for the impregnation of stearin candle-wicks, as is also *Ammonium sulphate* (purified).

Amyl nitrite and *Amyl nitrate* are both in good demand. It may be of interest to mention that the compound called *nitro-pentane* (New Rem., vi., 236), which is isomeric with amyl nitrite, has a similar action with the latter.

Nitrate of Silver.—The great number of varieties of caustic sticks has lately been increased by an additional one, namely, a mixture of 90 parts silver nitrate with 10 parts of silver chloride. It is, however, doubtful whether the effect of this compound is entirely identical with that of the pure nitrate. [The admixture of 5 per cent. of chloride of silver has been in common use for many years in the United States, and has never yet been found fault with.] Gehe & Co. think the best addition still to be 1–2 per cent. of potassium nitrate. An entirely black caustic, in very long thin pencils, is in use in France. This was found to contain 2½ per cent. of potassium nitrate, and 2 per cent. of prepared manganese peroxide.

Bismuth subnitrate.—The common complaint about the presence of ammonia in this salt, according to late observations, appears to be due to the fact, that bismuth, like zinc, decomposes water in presence of nitric acid, and thereby brings about the conditions necessary to the formation of ammonia.

Quinia.—Crude quinine (Chinium crudum) was in good demand. This is an amorphous mass, somewhat resembling chinoidine, and occurs also as a sulphate, forming a very hygroscopic yellow powder. Still more inquiry is made after the much purer substance, "Quinetum" (New Rem., v., 38), and its salts. This is a yellowish-white powder, contains all the crystallizable alkaloids (chiefly cinchonidia) of the bark of *Cinchona succirubra*, grown in the East Indies. It is a specialty manufactured by Mr. Whiffen in London, and is much used all over India.

Chloroform.—The price of this article is lower at present than at any previous period. Its use is gradually extending for technical purposes.

Codeia.—Invoices of Persian opium have reached Europe, which were found to be very rich in codeia. One lot contained as much as 1.4 per cent.

Cotoin.—The effect of this principle in diarrhœas is highly lauded. It is said to be of special service in cases where the use of opium is contraindicated.

Copper Sulphate.—Pencils turned on a lathe from large and hard crystals are still the best form for external use. Various attempts for preparing pencils or cones, by means of fusing copper sulphate with other substances, as potassium nitrate or alum, may be regarded as successful so far as the form is concerned, while, on the other hand, their caustic effect is much impaired.

Dialysed Iron, if prepared by dissolving precipitated ferric oxide in a solution of ferric chloride, can never be as basic as when made by dialysis. Even in the latter case, under the most favorable circumstances, the finished product contains two parts by weight of ferric chloride for every twenty-three parts of ferric oxide.

Inulin is in some demand as a remedy for diabetes mellitus.

Pancreatin ("vegetable ptyalin"), that secretion of the pancreas which is capable of converting a large quantity of starch rapidly into glucose, and which formerly was only sold in form of a glycerole, is soon expected to be offered in the market under the form of a pure dry greenish powder.

Phosphorus.—The consumption of the amorphous variety, both as a chemical auxiliary in the manufacture of colors, and in the preparation of matches, has again increased.

Pilocarpine hydrochlorate has been in extraordinary demand. It is particularly used in hypodermic injection; and as it is now prepared in form of a pure white salt, is likely to supersede the use of jaborandi leaves altogether.

Salicin.—In consequence of the active demand during the quinine famine of last year, the price for the crude material, especially the bark of *Salix Helix* (the interior of which, after drying, has a yellowish-red color) has attained an altogether exorbitant height.

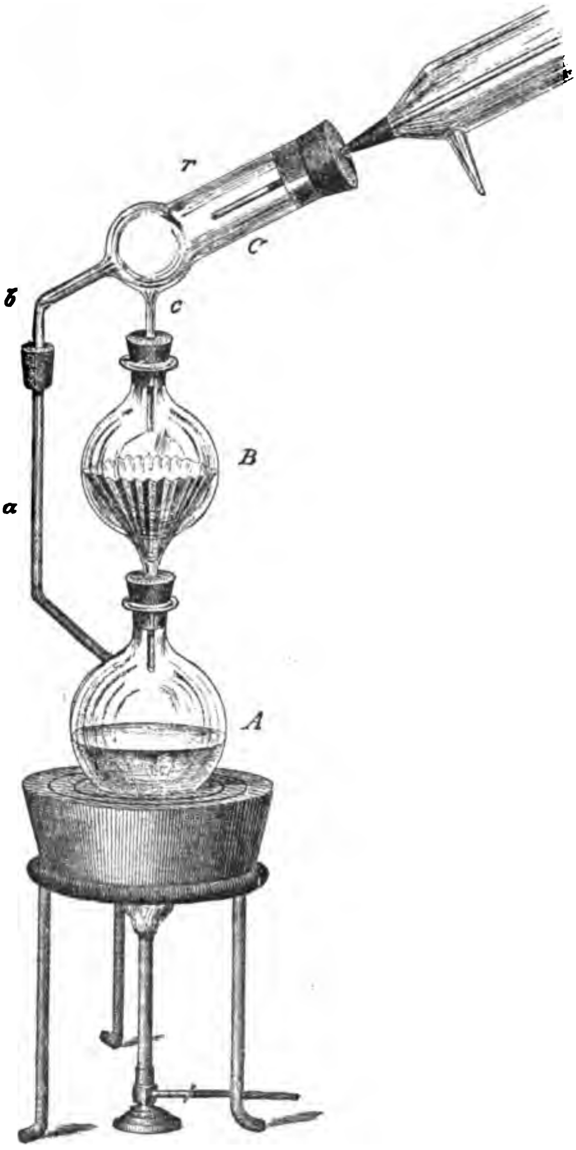
Vanillin.—In proportion to the decrease in the price of vanillin, the demand for it appears to have diminished. The delicate perfume of pure vanillin is said to be too volatile and evanescent. The original principle, as it exists in the vanilla bean, being intimately associated with a soft resin, itself aromatic, appears to be much more lasting.

Zinc valerianate.—Compelled by the demand, Gehe & Co. announce that hereafter they shall keep in stock two qualities: one, made by themselves, containing precisely the amount of zinc which the German Pharm. prescribes [100 parts of the salt should contain nearly 30 parts of zinc oxide]; and another commercial quality, containing only one-third as much zinc as the Germ. Ph. demands, but a proportionate amount more of water of crystallization. Both qualities differ in appearance. The crystals of the former are opaque and have a silvery lustre; those of the latter are almost transparent, less white, and devoid of lustre.

A New Apparatus for Continual Displacement.

In our April number, p. 108, we figured and described an apparatus constructed by P. Cazeneuve and O. Caillol for the exhaustion of solid powdered substances by means of volatile menstrua. A similar apparatus, devised by E. Drechsel, which has, however, some advantages over the other, is shown in the annexed cut. It consists of three parts: The flask, *A*, the globe-funnel, *B*, and the adapter, *C*, which is itself connected with a return-condenser. The flask, *A*, is provided with a lateral, rather wide glass tube, *a*; the funnel, *B*, is somewhat smaller in capacity than *A*, has a neck about 20–25 mm. (about 1 inch) wide, and a tube which is cut off obliquely at the bottom. The construction of *C* is evident from the figure, it being only necessary to remark that the end of the tube, *b*, is joined to the lateral tube, *a*, of the flask by means of a well-fitting cork, and that the proper adjustment of the ends of both tubes may be accomplished by boring the holes in the corks of the flask, *A*, and of the funnel, *B*, somewhat eccentrically, so that a simple turning of one or the other may bring about the correct position. A finely-plaited filter having been introduced into the funnel, the substance to be exhausted is placed into it; the liquid to be used, such as chloroform, alcohol, ether, benzol, etc., is introduced into the flask, and, after all connections have been made tight, heat is applied by means of a water-bath.

The whole apparatus may then be left to itself until exhaustion of the substance is complete. —*Zeitschr. für Analytische Chemie*, from *Journ. f. prakt. Chem.*, 15, 350.



Apparatus for Continual Displacement.

Preparation of Alkaline Nitrites.

Besides the theoretical, or at least impracticable process for preparing nitrites, which consists in heating nitrates to redness, two practical methods are known, namely, either to conduct the vapor of nitrous acid into the solution of an alkali, or to decompose lead nitrite by an alkaline carbonate.

The product obtained by both processes, however, is frequently contaminated with arsenic, arising either from the impurities of the lead, or from the employment of arsenious acid in preparing the nitrous acid.* These drawbacks are increased by the difficulty of keeping up a steady and regular current of nitrous acid gas, and also by the high atomic weight of lead.

There is, however, a method of preparing nitrites which is free from these objections, and which consists in reducing nitrates by means of potassium or sodium sulphites in the dry way. It is only necessary to fuse the two salts in equivalent proportions in a crucible. The reaction is as follows:

$$KNO_3 + K_2SO_3 = KNO_2 + K_2SO_4$$

pot. nitrate + p. sulphite = p. nitrite + p. sulphate.

The fused mass is treated with alcohol, which easily dissolves the nitrite, but does not dissolve the sulphate. If a slight contamination of sulphate does not interfere with the use of the nitrite, the mass may also be dissolved in water, and the solution evaporated so that the sulphate may crystallize. The mother-water will then yield the nitrite, accompanied by a small quantity of sulphate.—*Zeit. d. Oest. Ap. Ver.*, 1877, 426.

Glycyrrhizin as a Disguise for the Taste of Quinia.

LESTER CURTIS, M.D., writing to the *Chicago Medical Journal* on the above subject, gives Remington's formula, which has been employed for this purpose, and which may be found among the formulæ on page 189 of this volume. He then goes on to remark as follows:

"This prescription is complex, cannot be prepared extemporaneously, will mask only a small quantity of the quinine, and offers no advantages over the glycyrrhizin in substance. If a small quantity of glycyrrhizin be taken in the mouth, quinine can be taken afterwards without perceiving the slightest bitter taste, the drug is masked perfectly, it is as tasteless as chalk, and not nearly so disagreeable to take; nor does any disagreeable taste return in the mouth. A very large dose of quinine may be covered in this way.

"It is a very great convenience to combine the substances, so that they may be given in one dose. This may be accomplished by suspending the quinine in a solution of the glycyrrhizin. A grain of glycyrrhizin will cover the taste of a grain of quinine, and two grains of glycyrrhizin will dissolve in a drachm of syrup. I usually make a mixture, consisting of fifteen grains each of glycyrrhizin and sulphate of quinine, in an ounce of simple syrup. This mixture will give nearly two grains of quinine to the drachm, and in it the taste of the quinine is almost perfectly disguised; there is a slightly bitter taste, but it is not at all disagreeable and leaves the mouth in a short time. This mixture is a tolerably permanent one; the quinine will not settle to the bottom for two or three days, and when it does settle, it may be shaken up and used nearly as well as though freshly prepared.

"Children and fussy women take this mixture not only without objecting, they even like it.

"If it is desired to use a larger proportion of quinine to the ounce, the syrup must be mixed with water in order to dissolve the larger quantity of glycyrrhizin necessary to cover it. I have used as much as thirty grains of quinine to the ounce of the mixture, giving nearly four grains to the drachm. The disguise, however, is not as complete as in the other mixture; and, as a considerable quantity of water must be used, the quinine is not held in suspension as well."

Citro-Thymate of Quinia.

OIL of thyme is known to consist of three principles, two of which are the hydrocarbons cymene ($C_{10}H_{14}$), and thymene ($C_{10}H_{16}$), and the other the oxygenated compound thymol ($C_{10}H_{14}O$), which is homologous to phenol. Thymol may be separated by treating the oil with solution of potassa, which combines with it, and sets free the hydrocarbons in form of a colorless liquid, boiling between 178° and 180° C., and possessing the odor of thyme. Thymol itself crystallizes in rhombic prisms fusible at 44° C., has a strong aromatic smell, not quite like that of the crude oil, and is very soluble in alcohol and ether. It is capable of combining, like phenol, with alkalies and alkaloids.

Mr. C. Pavesi has obtained a crystalline compound by treating quinia with thymol and citric acid. Four parts of quinia are introduced into a flask, and six parts of oil of thyme are added, together with enough alcohol to dissolve the whole. The flask is then heated on the water-bath for a few minutes, and after standing at rest for twelve hours, two parts of citric acid in powder are added. The whole is heated again, filtered, and the filtrate is evaporated to a thick syrup. On cooling a yellowish mass crystallizes out. This is dissolved in boiling water, treated with animal charcoal, and the solution filtered and evaporated at a low temperature. After standing for twenty-four hours the salt is obtained in handsome crystals.

Citro-thymate of quinia appears in very white crystals, is tolerably soluble in water, more so in boiling water, and very soluble in alcohol. It is very bitter, and has a taste remotely approaching that of thyme. By appropriate reagents the presence of quinia, thymol, and citric acid may be recognized; but its exact composition has not yet been determined.—From *L'Union Pharm.*, 1877.

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* That is, the fumes of nitrous acid generated during the oxidation of arsenious into arsenic, by means of nitric acid, are often utilized to manufacture nitrites.

The Distribution of Tetanic Poisons in the Vegetable Kingdom.*

BY PROF. THEOD. HUSEMANN.

In a former paper by the same author † it was shown that cardiac poisons appear to be characteristic constituents of the individual members of certain orders of plants. A similar correlation, hitherto but litttle noticed, exists between certain natural orders and a class of poisons which may be comprised under the name *tetanic poisons*, producing involuntary contractions of single muscles or of whole muscle-groups.

Tetanic poisons are generally divided into two classes, according as they affect the brain or medulla oblongata, or the spinal marrow. The former are characterized by producing momentary contractions of muscles, the nerves of which arise directly from the brain (muscles of the eyes, face, or jaw), but often extending over all the muscles of the body. A peculiar distinction of this class is the high degree of cerebral torpidity (sopor, coma) which accompanies the most violent muscular convulsions, making the latter in some cases assume an almost epileptiform character, owing to the deceptive movements of the maxillary muscles, and the not infrequent appearance of foamy saliva. This class may be designated specially as *cerebral tetanic poisons*, or, if they are to be named according to their chief representative, may be termed the *picrotoxin group*.

The other class comprises the *strychnine group*, or *spinal tetanic poisons*, producing an augmentation of the reflex function of the spinal marrow. The intoxication produced by this class of poisons differs from the former by the longer duration of the muscular contractions, and by the particular affection of the extensor muscles, corresponding to the various forms of tetanus proper, which are distinguished by pathologists.

During late years attempts have been made to bring about a fusion of these two classes of poisons, because it was difficult, in some cases, to draw a line between them. It has, however, been shown that the apparently anomalous behavior of certain of these poisons is owing to the fact that some of them do not belong to either class, that is, that their effect is not due, primarily, to an excitement of *central* nervous plexuses, but to a stimulation of the *peripheric* terminations of nerves. Bezold and Hirt first noticed this peculiar property in the case of veratria, but it is only since the investigations of Gergens (Strassburg), and Swaen and Putzeys (Holland) on the effects of guanidine (of animal origin), that the existence of this class of tetanic poisons has been proved.

Before discussing the individual tetanic families, it may be of service to draw attention to a fact, which is of great importance in forensic toxicology. It is commonly stated that the physiological test of a suspected poison is of the highest, and sometimes decisive importance. But this is an error; under all circumstances it is inferior to the chemical proof, provided the latter is based upon characteristic reactions, while the former can at most be regarded only as a confirmation of the latter. A substance, which has been eliminated from portions of a body, and is found to dilate the pupil of a rabbit, or to produce systolic cardiac paralysis of a frog, etc., can only be said to belong to a certain *class* of poisons, each member of which is capable of producing the same results. Should we obtain, by means of the physiological experiment, tetanic symptoms, the evidence is by no means conclusive, as to the particular poison in question. Besides, it must not be forgotten that the manifestation of symptoms may and does vary among different animals.

We shall now proceed to examine the distribution of tetanic poisons in the various natural orders. And here we find that the *spinal tetanics* are exclusively confined to two families, namely, *Loganiaceæ*, and *Papaveraceæ*, the latter of which, however, also furnishes representatives of the *picrotoxin group*, and thereby forms the transition to the families containing the *cerebral tetanics*.

1. LOGANIACEÆ (*Strychneæ*).

This family, which is closely related to the Apocynaceæ, so that many botanists regard it merely as a sub-order of the latter, contains various bases, which we may comprise under the name *Strychnos alkaloids*. Dr. Husemann thinks it highly probable that the seeds of *Strychnos Nux vomica* L. contain, besides strychnia and brucia, some other tetanizing poisons (probably alkaloids), acting on warm-blooded as well as on cold-blooded animals. He draws this conclusion from the fact, that some commercial varieties of brucia exert a tetanizing action upon frogs of ascertained normal irritability, while at the same time they are not contaminated with strychnia. It has only lately been ascertained that perfectly pure brucia paralyzes the peripheric nerve-branches, while formerly it seemed to act somewhat similar to strychnia, owing to its being employed more or less impure. It appears, therefore, that we possess already a physiological proof of the existence of other alkaloids, and indeed, as early as 1853, a third crystallizable base (*igasuria*) was discovered in nux vomica by Desnoix, which Schützenberger afterwards (1858) claimed was a mixture of no less than *nine* different alkaloids, differing in solubility and composition. But no reliable experiments have ever been made with Desnoix's alkaloids, and Schützenberger's statements require confirmation.

A careful chemical examination of the various plants of this family promises to yield interesting results. The unequal distribution of brucia and strychnia over certain members of the family, and even in various portions of the same plant, is already well known. False angostura bark contains a relatively much larger quantity of brucia than of strychnia; on the other hand, Dr. Aug. Husemann could not find a trace of brucia in the Upas Radja or Tieuté, the inspissated juice of *Strychnos Tieute* Lesch. Possibly one or the other Strychnos species may contain an entirely new alkaloid, and would then form a counterpart of the West African Akazga plant, the tetanizing principle of which was isolated by Frazer, and recognized as different from strychnia and brucia. The existence of the two latter alkaloids is proven, so far, only in *Strychnos Nux vomica* L., *Strychnos Ignatii* Berg., *Strychnos colubrina* L., and *Strychnos Tieute* Lesch.; and is highly probable also in *St. ligustrina* Blume. In addition to the latter, the following species need further investigation: *S. minor*, *S. axillaris*, *S. potatorum*, and *S. bicirrhosa*, all of them natives of Eastern Asia.

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* Abstract of a paper in *Arch. der Pharm.*, Sept., 1877, p. 193 sq.

† *On the Distribution of Cardiac Poisons in the Vegetable Kingdom.* NEW REM., 1877, pp. 3–5, 38–40.

2. PAPAVERACEÆ.

In this family we find one individual, namely, *Papaver somniferum* L., which undoubtedly contains in its inspissated juice (opium) tetanizing alkaloids. These are, however, less energetic than strychnia, or even brucia or akazgia. The most poisonous is thebaia, after which may be ranked successively laudanine, porphyroxine, and narcotine. The relationship of laudanine to the tetanizing poisons has been placed almost beyond doubt by the investigations of C. Ph. Falck (1874), but this is not the case with the two last-mentioned alkaloids. The chief reason why the results of investigators do not agree among themselves, is most likely to be sought in the fact, that the substances experimented with were mixtures of various alkaloids. From the researches of Falck, sen. and jr., it also appears that opium contains, besides spinal tetanics, a number of cerebral tetanic poisons, namely, codeine, hydrocotarnine, and laudanosine, all of which may be classed among the picrotoxin group. Dr. Husemann is able to confirm this statement, at least so far as codeine is concerned, because the convulsions produced are independent of the spinal marrow, and after the section of the latter, only continue in those parts, the nerves of which arise directly from the brain.

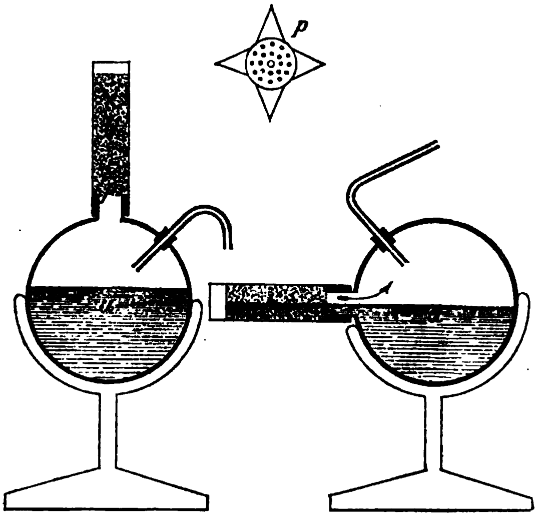
Quite lately an American investigator (Smith) has characterized another alkaloid, occurring in *Chelidonium majus* L., and in *Sanguinaria Canadensis* L., namely, sanguinaria, as belonging both to the tetanic and to the paralyzing poisons. Convulsions and paralysis are both referred to spinal action, but it remains doubtful in what manner the peripheric nerve-branches participate in the convulsions. Whether the other alkaloid discovered in blood-root, which has been denominated sanguinaria-porphyroxine, has physiological relationship to opium-porphyroxine, which it otherwise resembles, has not been decided. It is not impossible that some of the alkaloids discovered in *Glaucium luteum* Scop., and in *Eschscholtzia Californica* Cham., may likewise be found to have tetanic properties.

(To be continued.)

A Simple Gas-Generator.

A VERY simple apparatus, for generating gases, has been constructed by Max Süss, which is represented in the accompanying figure.

The vessel *a* is an ordinary globular receiver, of the capacity of 300–500 c.c. and intended to contain the acid. The upper vessel, *b*, which is to be charged with marble, zinc, ferrous sulphide, etc., according to the nature of the gas to be generated, is a cylindrical vessel, turned bottom upwards, and pushed over a cork ring surrounding the neck of *a*, tight enough to prevent leakage. The solid contents of *b* are retained in it by means of a diaphragm of platinum or lead, *p*, which may be fastened upon the edge of the cork ring by means of the four sharp corners. When using the apparatus, it is only necessary to turn the vessel *a* sufficiently, to cause the acid to enter the reservoir *b*.—*Zeitsch. f. Anal. Chem.*, xvi., 457.



A Simple Gas Generator.

Nitrate of Pilocarpine.

M. PETIT states, in a communication to the Société de Thérapeutique of Paris, that he has obtained nitrate of pilocarpine in fine white scales with the greatest facility by the following process:

Jaborandi leaves are exhausted by displacement by means of alcohol at 80°, containing eight grammes of hydrochloric acid per litre. The alcoholic liquor is distilled, and the residuum dissolved in distilled water, which causes a considerable quantity of resin to separate itself; an excess of ammonia and chloroform is then added to the aqueous solution, and upon agitation the chloroform takes up the pilocarpine. This is distilled and again agitated with the ammoniacal liquor. This process is repeated several times. The impure pilocarpine obtained as the residuum of the several distillations is exactly saturated with dilute nitric acid, and is then filtered and evaporated in a water-bath, furnishing a dark-colored, crystalline mass of impure nitrate of pilocarpine. This is placed in a small percolator and lixiviated with absolute alcohol, cold. All the coloring matter is dissolved by the alcohol, and the nitrate is left nearly white. In order to obtain fine crystals this should be dissolved in absolute alcohol at the boiling point, a small quantity of bone-black added, and the boiling solution filtered, when it will deposit magnificent crystals of a perfect whiteness. The amount produced by this process is very considerable; about five grammes of nitrate of pilocarpine may be obtained from a kilogramme of jaborandi.

Nitrate of pilocarpine has a rotary power equal, for the line D, to + 76°. It is precipitated by the chloride of gold in the form of fine needles, and by the chloride of platinum in the form of beautiful prismatic crystals grouped in stars. It is soluble in eight parts of distilled water at 15° Centig., and in seven parts of absolute alcohol at the boiling point, but is very slightly soluble in cold alcohol.—*Mouvement Médical,* 1877, 380.

On Boettger's Reagent for Glucose.

PROBABLY the most delicate test for the presence of glucose, particularly in urine, is that proposed by Boettger, namely, to boil the urine, previously mixed with solution of sodium carbonate (1 part cryst. sod. carb. to 3 pts. water), with a very small quantity of bismuth subnitrate for some time, and then to allow the liquid to deposit. If glucose is present, the sediment exhibits a gray to deep-black color, according to the quantity of grape-sugar present. To obtain reliable results, however, it is necessary that the urine be absolutely free from every trace of albumen, or other proteïn-bodies, because the sulphur of the latter would produce black bismuth sulphide, which might be mistaken for the grape-sugar reaction. There are various well-known methods for removing such proteïn-bodies; but O. Maschke has lately proposed a new one, which appears to accomplish the object with absolute certainty. He precipitates the albumen, etc., with a solution of sodium tungstate strongly acidified with acetic acid. A sample of the urine is mixed with ¼ to ⅓ volume of the sodium tungstate solution, and the liquid is filtered after a few minutes (if a precipitate was produced). In case of an abundant precipitate, the filtrate must be tested with a new portion of the reagent, to make sure that the precipitation was complete. The clear filtrate, freed from albumen, etc., is then mixed with half its volume of solution of soda (or an equal volume of solution of sodium carbonate), and a small quantity of bismuth subnitrate—about as much as half a pepper-seed—is added. Without regard to any violet, blue or green coloration, which is often produced immediately, the mixture is first well shaken, and the bismuth is allowed to settle. If the latter has assumed a gray, brown, or black color, the urine contains alkaline sulphides (Na_2S) which must be removed. In this case a new portion of urine is slightly acidified with acetic acid, and briskly shaken up with a small quantity of bismuth subnitrate. It is then filtered, and afterwards, if necessary, freed from the albumen by the above process.

To bring about the reaction with glucose, the mixture of urine, soda solution and bismuth subnitrate, must now be boiled. In presence of much glucose an immediate browning of the mixture will be observed, and the boiling may soon be interrupted. Traces of glucose, however, can only be detected by protracted boiling. The reduced black bismuth is generally deposited last, so as to form a layer over any remaining undecomposed bismuth oxide. This reaction is capable of showing the presence of as small a quantity as $\frac{1}{100}$ % of glucose in urine; and since glucose appears to be a normal constituent of urine, although only present in traces, it might become a question of doubt, whether a particular kind of urine is diabetic or not. It may, however, be safely assumed, that no urine should be considered diabetic (specific gravity and quantity being normal), unless abundant reduction of the bismuth salt takes place before the actual boiling of the test-liquid mixed with the urine.—*Zeitsch. f. Anal. Chem.*, 1877, 425.

Phosphide of Zinc.

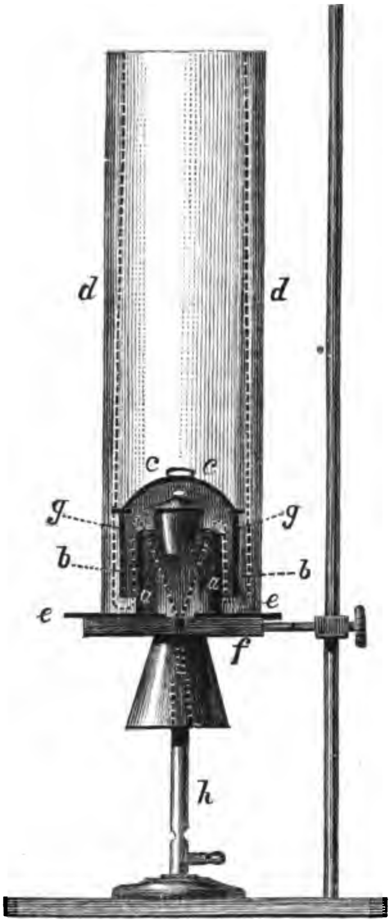
BERGER has tried this remedy in fifteen cases of nervous affection—neuralgia, chorea, singultus hystericus, etc.—in doses of five to eight milligrammes, three times a day, in pillular form. Only twice was a favorable impression obtained in hemicrania; the paroxysms appearing a little lighter and of shorter duration. In the other cases no decided influence was produced. By a prolonged use of the remedy slight dyspeptic symptoms were produced.—*Med. & Surg. Rep.*, from the *Allgem. Med. Cent. Zeit.*

On the Production of Intense Heat by a Simple Gas-Burner.

THINKING that by a suitable arrangement the loss of heat by radiation, during the ignition of crucibles, could be prevented, Dr. Walther Hempel has devised a simple apparatus, mainly composed of clay cylinders and sheet-iron, by means of which a common Bunsen's burner may be made to do the work of a muffle or blast-lamp.

The gas-oven (see figure) consists of two clay cylinders, *a* and *b*, an arched clay cover *c*, a plate of sheet-iron *e*, with a central hole, and a sheet-iron chimney *d*. An ordinary retort stand answers very well for supporting the apparatus. The inner and smaller clay cylinder has, at its upper margin, three projecting arms, for holding the crucible; the larger cylinder rests on the sheet-iron plate only by three points, the intervening space serving as an exit for the gases. The chimney and the clay cylinders are retained in their proper places by small guides, made of strips of sheet-iron, riveted to the bottom plate.

When the apparatus is to be used, the height of the ring *f* of the retort stand is regulated so, that the hottest part of the flame from the Bunsen's burner *h* will strike the middle of the crucible. The flame is then turned low, the crucible introduced, and the cover and chimney set up. After 2 or 3 minutes the interior has become sufficiently hot to permit the flame being turned on full, when it follows the direction of the dotted lines. The author states that he finds it to be a serviceable substitute for a muffle in nearly all cases. As an instance he adds that he has melted with it some 50 grammes of silver in a small porcelain crucible.—*Zeitsch. f. Anal. Chem.*, 1877, 454.



Simple Gas Furnace.

The Estimation of Casein in Milk.

L. Manetti and G. Musso propose a modified method for determining the casein in milk, which in certain cases is easier of execution than other processes, and furnishes sufficiently accurate results, provided the amount of salts accompanying the casein be separately determined by ignition, and deducted. The method is as follows: 50 grammes of the milk, which should have acquired the proper degree of acidity for making cheese, are weighed into a porcelain capsule, and the latter is placed on a water-bath, containing water heated to 50–60° C. (122–140° F.), and left there until the milk has acquired a temperature of 39–40° C. (102–104° F.). A few drops of a glycerine solution of rennet* are then added, the mixture is stirred with the thermometer, and kept at a temperature of 35–40° C. (95–104° F.). A few minutes after coagulation has set in the mass is cut with a spatula, and the color of the exuding serum is noticed. If the latter oozes out quickly, and has a citron-yellow color, the coagulation is complete; otherwise it is necessary to wait until such is the case. The liquid is poured off upon a gray filter, which had better be placed in a hot filtering apparatus; lukewarm water is poured upon the mass, and the latter stirred to break it up, and the liquid also poured on the filter. This is continued until the last water ceases to react with Fehling's solution. The filter is now drenched with a few c.c. of a mixture of ether and alcohol, 40–50 c.c. of absolute or concentrated alcohol are then poured upon the mass in the capsule, heated to boiling on the water-bath (the capsule being covered with a glass plate), and the boiling alcohol is poured on the filter. This is repeated until no more fat is extracted. The particles of casein have by this time assumed a horny condition. They are washed a few times with ether, which is also poured upon the filter; the latter is spread out upon a plate of glass, the particles of casein adhering to it are transferred to a watch-glass, to which is also added the portion remaining in the capsule. The watch-glass with contents is then dried in an air-bath at 115° C. (239° F.) and weighed. A weighed quantity of this is ignited in a crucible, the amount of ash calculated for the total quantity of casein, and deducted. The remainder represents the correct weight of casein.—*Zeitsch. f. Anal. Chem.*, 1877, 402.

On the Preparation of the Green Iodide of Mercury.

Mr. Patrouillard, in discussing the merits of several formulæ for the preparation of mercurous iodide (hydrargyri iodidum viride), draws attention to a process devised by M. Dublanc, a number of years ago, which he considers to have advantages over those at present in use. This process consists in triturating together a mixture of mercuric (red) iodide and of metallic mercury, in the proper proportions, namely:

Mercuric iodide.............	227 parts.
Mercury...................	100 "

The red iodide may easily be obtained of absolute purity, and in a state of perfect dryness; besides, during the trituration, there is no risk of loss by volatilization. The mixture should merely be moistened with alcohol of eighty per cent., so as to form a thin paste, and well triturated; the reaction takes place in a very short time, and the product is of a dark greenish-yellow color. By way of precaution it should be washed with boiling alcohol.—*Rép. de Pharm.*, 1877, 549.

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* The mucous membrane of the rennet-bag of a suckling calf is taken and dried. After a few months it is cut into strips and macerated for a few days in 100 c.c. of glycerine, with frequent shaking. The clear liquid is then poured off and preserved.

RECENT PAPERS.

Bulletin Général de Thérapeutique. Nos. 2-5.

MM. PAQUELIN and JOLLY: "The Pyrophosphates." [The following is the résumé of an interesting paper upon the above subject:

1st. The pyrophosphates are not phosphates.

2d. The pyrophosphates are perfectly defined bodies, which energetically maintain their peculiar structure.

3d. They are not assimilable, and they pass through the system without undergoing any transformation.

4th. They are wholly eliminated in the urine.

5th. They are not *reconstituents;* they act upon the organism neither by their acids nor by their bases; they are merely dialytics, and as such are diuretics.

6th. The pyrophosphates of commerce contain variable quantities of phosphates.]

Dr. ESTACHY: "The Employment of Ergot of Corn in the Place of Ergot of Rye." [In the experience of the author the action of the ergot of corn is identical with that of the ergot of rye.]

S. MARTIN: "The Use of Liquorice in Diabetes Mellitus." [The author states that a diabetic patient may take as much liquorice as he likes without increasing the quantity of sugar in the urine. It may be used instead of sugar to sweeten tea or coffee without injuring their taste.]

The Practitioner.

August. OCTAVIUS B. SHREVE: "Etherization and its Dangers." [Enumerates the causes and modes of death which may occur during inhalation of ether, and cites three cases, one of which proved fatal from stoppage of respiration.]

EDITORIAL: "On the State of Therapeutics in Tetanus." [Reviews the action of chloroform, chloral, calabar bean, opium, nitrite of amyl, bromide of potassium, conium, aconite, curare, belladonna, strychnia, cannabis indica, and cold to the spine.]

September. A. H. RABAGLIATE: "Are there Laws of Therapeutics?" [A continued article, not yet sufficiently advanced to quote.]

J. MILNER FOTHERGILL: "When not to Give Iron." [See page 324.]

EDWARD T. BLAKE: "Nitrite of Amyl in Exophthalmic Goitre." [Details of a case—female, *æt.* 45. Two-drop doses before meals gave prompt and satisfactory relief, but the dose was subsequently reduced to $\frac{1}{16}$ of a drop half an hour before eating. The thyroid did not diminish in size, but subjective symptoms were much ameliorated.]

Richmond and Louisville Medical Journal.

October. JULIAN J. CHISOLM: "What Anæsthetics shall we Use?" [Favors chloroform in preference to ether. Believes that the idiosyncrasy of the patient is the cause of sudden death, and that it is as likely to lead to this result in the use of one agent as in the use of the other—a conclusion which we are quite safe in assuming is not endorsed by many who have paid attention to the subject.]

The American Practitioner.

September. DAVID W. YANDELL: "On the Mercurial Vapor Bath." [See next number.]

WILLIAM CARSON: "Treatment of Typhoid Fever—Good Effects of Salicylic Acid and Baths." [Salicylic acid was given in combination with equal parts of borax, and dissolved in equal parts of glycerine and water. Doses large; for a time at intervals of an hour; stopped when the diarrhœa appeared. Cold bath at 95°. Notes of case.]

T. S. CORNETT: "Pepsin—Does it Merit a Place in Materia Medica?" [His own observations, and the conclusions he arrives at from the literature of the subject, lead him to a negative answer.]

October. N. S. DAVIS: "On the Pathology and Treatment of Dysmenorrhœa." [After describing a certain class of cases in which dysmenorrhœa is a prominent symptom, he expresses his belief in the rheumatic nature of the affection, and explains the measures which he resorts to. The formulæ which he recommends will be found on page 351.]

CHARLES R. GREENLEAF: "Quinia in Small Doses in Malarial Diseases." [See page 351.]

Pacific Medical and Surgical Journal.

September. Q. C. SMITH: "Tincture of Nux Vomica for Nausea and Vomiting in Pregnancy." [Insists that the remedy will prove effectual in relieving such cases in the great majority of instances, and mentions the following formula:

℞. Tinct. nucis vomicæ,
Liq. bismuthi, ... āā ℥ss. M.

Teaspoonful three to four times daily, after meals.]

October. CLINTON CUSHING: "On Some of the Uses of Ergot." [Résumé and recital of case.]

The Ohio Medical Recorder.

September. D. N. KINSMAN: "Salicylic Acid and its Salts." [A brief résumé of their nature and therapeutic properties.]

P. J. SPINZER: "Salicylic Acid in Idiopathic Erysipelas." [Used as a local application, 30 grains of salicylic acid in ℥i. of glycerine, with remarkably favorable and rapid results.]

A. W. DUMM: "Poisoning by Corrosive Sublimate." [White of egg used with success as an antidote.]

Chicago Medical Journal.

October. F. H. DAVIS: "The Respiration of Compressed and Rarefied Air in Pulmonary Diseases." [Gives a description of a new apparatus for the compression and rarefication of air, and also describes the effects of the measure, and the conditions appropriate to its use.]

LESTER CURTIS: "How to Disguise the Taste of Quinia." [See page 329.]

JAMES I. TUCKER: "Colocynth and Colocynthian Reflections." [Asserts that colocynth will allay the pain caused by excessive peristaltic action better than any drug in use, not excepting opium, providing it be employed in proper doses. Enough of the tincture of colocynth is used to render water slightly bitter; of this a teaspoonful, *pro re nata*, will afford speedy relief from violent griping.]

Detroit Medical Journal.

October. DEWITT C. WADE: "Hydrobromic Acid in Prescriptions." [See page 350.]

A. B. LYONS: "Strychnia Incompatible with Bromide of Potassium and Certain Other Salts." [A prescription containing gr. ij. of strychnia, ℥ ij. of bromide of potassium, and ℥ iv. each of syrup and water, formed a clear mixture, which, after a time, became turbid and eventually deposited a considerable portion of what the writer presumed to be hydrobromate of strychnia. The same phenomenon resulted from the employment of bromide of sodium, iodide of potassium, and chloride of iodium. Nitrate of potassium and sulphate of sodium appeared to have no such effect.]

New York Medical Journal.

October. J. H. FINLEY: "Sixty Cases of Poisoning by Arsenic." [Sixty miners suddenly presented symptoms of arsenical poisoning. The usual hydrated sesquioxide of iron was employed as an antidote, and all recovered. The author does not mention the source of the arsenic causing the trouble, nor give his reasons, aside from detailing a few of the symptoms, why he believes arsenic to have been the cause of the trouble.]

Medical and Surgical Reporter. No. 9.

WILLIAM PEPPER: "Internal Administration of Nitrate of Silver and the Occurrence of a Blue Line upon the Gums as the Earliest Sign of Argyria." [To prevent the irritant action of the drug upon the stomach it is given by the writer in pills, containing from one-sixth to one-fourth of a grain, three times daily, soon after taking food. To avoid the discoloration of the skin which follows the continued use of silver, the remedy is given as before mentioned, until thirty grains have been taken, when it is suspended for a month. Fifteen grains are then given in the same manner, and after a second interval of a month, fifteen grains more. He further says that the earliest symptom of the constitutional effect of the drug, occurring before there is danger of the slightest discoloration of the skin, is a peculiar blue line on the gums, first described by Dr. Branson.]

John J. Reese: "On Toxicology." [A lecture delivered at the University of Pennsylvania—the medico-legal view of the subject being the most marked feature of the paper.]

American Journal of Pharmacy.

October. Alb. B. Prescott: "Solubility of Quinia Precipitate in Water-Washing." [Finds the solubility of quinia in water used for washing the precipitated alkaloid to be 0.000216 grammes for every c.c. A solution of sodium sulphate, half saturated, such as would most likely be formed by precipitating quinia sulphate with soda, dissolves nearly the same amount, namely 0.0002 gm. per c.c.]

Same: "Gravimetric Determination of Quinia, as a Precipitate by Potassium Mercuric Iodide." [The value of this precipitate, dried at 212° F., was found to be 2.9 gm. for 1 gm. of quinia. 26 c.c. of Mayer's standard solution are required to precipitate completely 0.28 gm. of quinia dried at 212° F. The precipitate is very dense, and bears washing without loss.]

Same: "Gravimetric Determination of Quinia as a Precipitate by Phosphomolybdate." [This precipitate is also very dense, and bears washing without loss; but it must not be heated above 158° F., as molybdenum would be reduced, which is shown by a blue color. The value of the precipitate, dried below 158° F., to a constant weight, is 3.665 gm. for 1 gm. of quinia dried at 212° F. Both this and the previous reagent must be added in slight excess.]

Same: "Solubility of Quinia Precipitate in Washed Ether." [Nearly 21 parts of *washed* ether are required to dissolve a precipitate of quinia containing 1 part of the anhydrous alkaloid.]

Same: "Valuation of Six Samples of Citrate of Iron and Quinia." [Only the *total* alkaloid was estimated; and this was extracted by first adding tartaric acid (to keep ferric hydrate in solution), then soda solution, and then shaking with chloroform. The samples gave 5.2, 12.2, 8.7, 9.0, 11.4, 8.3 per cent. of alkaloid.]

Same: "The Presence of Sulphates in Citrate of Iron and Quinia." [In each of the preceding six samples, sulphates were found to be present, caused no doubt by the retention of a sulphate in the precipitated ferric oxide employed in making the ferric citrate. The amount varied from less than 1 per cent. to 6.5 per cent. of sulphuric anhydride.]

Same: "The Proportion of Quinia in the Citrate of Iron and Quinia (U. S.)." [By calculation, the preparation, if made anhydrous, would contain 15 per cent. of absolute quinia. The water contained in the commercial article was found in four samples to be: 9.2, 4.2, 8.1, and 6.8 per cent.; mean, 8.4 per cent. Hence calculation would, on the supposition that the salt contained 8 per cent. of water, give the percentage in the officinal salt as 13.9 per cent. of anhydrous quinia, or 16.2 per cent. of quinia trihydrate.]

Same: "The Pharmacopœial Preparation of Citrate of Iron and Quinia." [From some statements of Mr. Holloway contained in this paper, we would infer that he prefers the following process for preparing *soluble* citrate of iron and quinia: In one fluid ounce of normal ferric citrate solution (U. S. P.) are dissolved 48 grains of quinia sulphate; then 2½ fl. drachms of ammonia, and finally 3 grains of citric acid are added. The product would be about 288 grains, containing 14.9 per cent. of quinia.]

Same: "On Husemann's Test for Morphia." ["When morphia or one of its salts is exposed to the action of concentrated sulphuric acid for 12 to 15 hours at the ordinary temperature, or for half an hour at 100° C., or for a very short time at 150° C., there occurs, after cooling, a faint violet-red color. If now (to the cooled solution) there be added a drop of nitric acid, or chlorine-water, or ferric chloride, or solution of chlorinated soda or lime, or a fragment of potassium nitrate or chlorate, there is produced a beautiful blue to violet-red color, soon passing into a dark red. The one-hundredth of a milligramme of morphia enables this color to appear with distinctness." *Husemann: Pflanzenstoffe*, p. 124.—Husemann's test was found not to be confined to morphia. *Narcotina*, with pure sulphuric acid at 100° C. alone, gave the same reactions as morphia; and in Husemann's test, the color developed was bright pink-red or carmine. *Codeia*, with sulphuric acid at 100° C., gave a blue-purple color; and in H.'s test, the same reactions as morphia. *Brucia*, with concentrated sulphuric acid, even in the cold, gives a *light red* color. This color, on warming and treating with stannous chloride, fades only very gradually to yellow; but in presence of *nitric* acid (as is well known) stannous chloride develops an intense purple.]

J. C. Wharton: "Liquor Potassii Arsenitis." [Proposes to use fused potassium hydrate in concentrated solution, to neutralize the arsenious acid, instead of taking potassium bicarbonate, as at present directed.]

A. B. Lyons, M.D.: "Incompatibility of Strychnia with Certain Saline Solutions." [Noticing that sulphate of strychnia produces, in a solution of potassium bromide, a bulky precipitate of (probably) hydrobromate of strychnia. Sodium bromide acts similarly. Potassium iodide, 3 ʒ to 1 fl. ℥, produces at once a crystalline precipitate in a solution containing 1 grain of strychnia to 1 fl. ℥. Sodium chloride gave similar results.]

F. V. Greene, M.D.: "On Jurubebia." [The berries of the jurubeba plant, *Solanum paniculatum* L., of Brazil, contain an alkaloid, which has been named by the discoverer *jurubebia*. Jurubeba is also known as the juripeba, jupeba and jubeba, supposed to be derived from *juia*, berry or fruit, and *beba* or *peba*, soft.]

Journal of the Chemical Society.

September. W. A. Tilden: "On the Oxidation-Products of the Aloïns." [When aloin, prepared from Cape aloes (or "*nataloin*") is digested with a 10 per cent. solution of potassium bichromate acidified with the proper quantity of sulphuric acid, carbonic and acetic acids are the results, but no other substance, of definite composition, is produced. When, however, aloin prepared from socotrine aloes (or "*socaloin*"), or aloin prepared from Barbadoes aloes ("*barbaloin*") is treated in the same manner, a precipitate is produced which was found to have the composition $C_{16}H_{10}O_6$, and was named aloxanthin.]

Pharmaceutical Journal and Transactions, Nos. 379–380.

"The Month." [The wood of the *Tupelo* tree (*Nyssa villosa* Mich.) has been recommended, in place of sponge for making tents (sponge-tents).—The alkaloid of *Pao Pareira Bark* (*Geissospermum læve* Baill.) has been found to paralyze all voluntary muscles. The bark has long been used as a febrifuge and antiperiodic in Brazil.—Dr. R. Bell, of Glasgow, has revived the use of *calcium chloride* in the atrophy of infants, especially when arising from tuberculosis.—*Coffee* has been found to have antidotal powers against strychnia.—The inhalation of *amyl nitrite* has been used successfully in a case, which nearly proved fatal, from the use of chloroform.]

G. Welborn: "Glyceritum Tragacanthæ as an Excipient." [In the course of this paper, in which the author confirms the superiority of this excipient over others in certain cases, he draws attention to a mixture of one part of glycerine and three parts of treacle as being even still more useful. For particular pill-masses the proportion of the two ingredients might perhaps have to be slightly varied.]

Zeitschrift für Analytische Chemie.* XVI., 4.

Manetti and Musso: "Source of Error in the Estimation of Fat in Milk, etc." [In exhausting the dried residue of milk, etc., with ether (in order to obtain the fat), a resinous body is at the same time dissolved, which has acid properties, and appears first in the shape of reddish globules, which gradually darken, and often adhere to the sides of the vessel, without mixing with the fat. This body is insoluble in carbon disulphide. Its nature is not yet determined, but it may be a derivative of lactic acid. The ethereal extract of the residue from milk may contain as much as 0.54 per cent. of this substance, and the same from cheese, as much as 11.53 per cent.]

SAME: "On the Determination of Casein in Milk." (See p. 333.)

O. MASCHKE: "On Boettger's Reagent for Glucose." (See p. 332.)

WALTH. HEMPEL: "On a Gas-Burner as a Substitute for a Blast-Furnace." (See p. 332.)

MAX SÜSS: "A Simple Gas-Generator." (See p. 331.)

E. DRECHSEL: "A New Extraction-Apparatus." (See p. 328.)

Zeitschrift f. Physiologische Chemie. I., 3.

O. SCHMIEDEBERG: "On the Preparation of the Brazil-nut Crystals." [The kernels of the fruit of *Bertholletia excelsa* H. et B., commonly called Brazil-nuts or Pará-nuts, contain a peculiar albumen compound, which has been recognized as identical with vitellin, existing in the yolk of egg. It may be obtained as a crystalline compound by means of magnesia, with which it forms shining polyëdric crystals of magnesium vitellinate.]

Droguisten Zeitung. No. 38.

PROF. KUHLMANN: "Production of Crystalline Figures upon Glass or Paper." [Window-panes, wall-paper, or other surfaces may be handsomely decorated by means of the following simple process: prepare as concentrated a solution as possible of any easily crystallizable salt, as magnesium sulphate, zinc sulphate, etc., and dissolve in it a small quantity of dextrin. Filter the solution through white filtering paper, and apply it evenly and thinly, by means of a broad brush, to the glass or other surface, which is then kept in a horizontal position for about fifteen minutes. During this time most magnificent groupings of crystals make their appearance, resembling the ice-flowers of winter, which adhere firmly to the surface, but may be permanently fixed by means of a thin coating of shellac. If it is desired to remove part of the coating, as, for instance, to examine the crystals for their optical behavior towards polarized light, it is only necessary to pour a thin layer of collodion over them, and, after drying, to strip the latter carefully off. In this way the whole crystal-group may be lifted off the glass, adhering to the collodion film.]

Pharmaceutische Zeitung. 71-82.

REPORT ON THE CINCHONA CULTIVATION IN JAVA: [By order of the Government, of May 28, 1877, the director of the plantations was authorized to plant an additional million of cinchona trees. A portion of the bark-harvest of 1876, consisting of 146 chests and 337 bales, was sold by auction at Amsterdam on April 17th, last. The prices obtained were unusually high, the average being, for ½ kilo or 1 pound, as follows:

	Crop of 1875.	*Crop of* 1876.
Cinchona succirubra.........	$0.54	$0.56
" Calisaya Javanica..	0.60	0.96
" " Schuhkraft.	0.51	0.75
" " Ledgeriana.	1.50	**3.43**
" officinalis.	1.00	**2.44**
" Hasskarliana......	0.58	0.93
" caloptera..........		0.61
" mixed pieces.......		0.55
" powder...........	0.15	0.32

During the last months of 1876 the cinchona trees have suffered a great deal from rot, which has been ascertained to be due to the ravages of a hemipterous insect, the same which infests the tea-plant, namely *Heliopeltis theivora.* Both the adult winged, as well as the young unwinged individuals feed upon the sap of the young leaves and bark. For this purpose they puncture the epidermis by means of their proboscis in a great number of places, whereby the leaf or bark acquires a spotted look. In the course of time the uninjured parts of the leaf or bark continue to grow, while the punctured portions shrivel up and die off. In consequence thereof the leaves and ends of the branches assume a twisted shape, and gradually become dark-colored, until new shoots make their appearance from the apparently dead parts. This insect is only found upon introduced plants, such as Tea, Cinchona, Fuchsia, and a species of Datura; it has not yet been met with upon plants indigenous to Java. Their destruction is a task of great difficulty, and probably impossible. The best means of getting rid of them are the early removal of diseased leaves and branches, and the assistance of the birds inhabiting the plantations, against the annoyance or killing of which stringent laws have been enacted.]

J. D. BIEBER: "Adulteration of Expressed Oil of Almonds." (See p. 324.)

Zeitschrift d. Oesterreich. Apotheker Vereins. No. 27-29.

C. G. WITTSTEIN: "On Hypophosphoric Acid." [The acid liquid produced by the slow deliquescence of phosphorus in moist air, which was formerly regarded as a variable mixture of phosphorous and phosphoric acid, has lately been found by Th. Salzer to contain a new acid of phosphorus, corresponding to the oxide P_2O_4, and having the formula H_2PO_3, *hypo-phosphoric acid*, being a bibasic acid.]

SAME: "On the Methods for Detecting Fuchsine in Wine." (See next number.)

PLAUCHUD: "Chemical Examination of Dog-Grass (*Triticum repens*)." [A farmer living in the vicinity of the author hit upon the idea of utilizing this weed as fodder for cattle. He obtained from 100 parts of the dry plant 65 parts of flour, of an agreeable odor and taste, which is eagerly devoured by cattle. The author examined the flour, and found it to contain (in 100 parts, dry):

Crystallizable sugar...........	3	parts.
Uncrystallizable sugar.........	4	"
Starch.......................	13.9	"
Fat.........................	1.115	"
Nitrogen....................	1.45	"
Mineral constituents..........	3.25	"
Lignin and other substances....	73.285	"

Répertoire de Pharmacie. No. 18.

M. JOLLY: "On the Alterability of Calomel." [The author has made a series of experiments, similar to those made by Mr. Corwin (see our July number, p. 211), in order to ascertain whether any corrosive sublimate was formed during the treatment. *Physical Agents:* Heat; on subliming pure and dry calomel, there is always a partial decomposition; the residue is tinged gray from metallic mercury, and corrosive sublimate is formed. Direct sunlight also decomposes calomel. *Chemical Agents:* Distilled water containing 0.2 per cent. hydrochloric acid was kept in contact with calomel at 40° C. After six hours three milligrammes of sublimate were formed. A solution of chloride of sodium, 0.5 per cent. and one gm. calomel produced in six hours one milligramme of sublimate. Citric acid also produced a similar quantity. Caustic soda, sodium carbonate, calcined magnesia and lime also produced from six to three milligrammes of sublimate.]

M. PATROUILLARD: "On Apomorphia." [Recent solutions of apomorphia in water or alcohol are nearly colorless, or have a greenish tint; on exposure to the air they acquire a greenish and finally an emerald-green color. This is due to some oxidizing action of the air. It may be brought about instantly, by adding to the fresh solution one or two drops of a solution of potassium permanganate.]

M. PATROUILLARD: "On the Preparation of the Green Iodide of Mercury." (See p. 333.)

L'Union Pharmaceutique. No. 9.

C. PAVESI: "On Quinia Citro-Thymate." (See p. 329.)

STANISLAUS MARTIN: "On the Innocuousness of Liquorice in Diabetes." [The author has proven by careful analysis of the urine of a diabetic patient, that glycyrrhizin, the sweet principle of liquorice, exerts no influence whatever on the quantity of glucose eliminated. It passes through the digestive apparatus unchanged, and may be recovered from the urine.]

ORIGINAL COMMUNICATIONS.

THE MEDICINAL CHLORINE-DERIVATIVES OF ALCOHOL.*

(Concluded from page 307.)

Dichlorallylene is an aromatic liquid, boiling at 78° C. (172° F.), but is very unstable, being gradually decomposed, even at ordinary temperatures, acquiring a disagreeable odor, and setting free hydrochloric acid gas. The same phenomena are observed in impure samples of chloroform, and the readiness with which the latter decomposes and becomes acid makes it highly probable that this is owing to a contamination with dichlorallylene. Its presence is easily accounted for by the fact that many manufacturers prepare chloroform from crude alcohol, which contains considerable quantities of *aldehyde*. The latter is converted into croton-chloral, and this, by contact with the chalk during the rectification, into dichlorallylene.

If we, however, accept the new views of the constitution of croton-chloral, according to which it is in reality *butyl-chloral*, we would have the following products of decomposition:

$$\begin{array}{ccccccc} C_4H_6Cl_2O & + & 2KHO & = & C_3H_4Cl_2 & + & KCl & + \\ \text{butyl-chloral} & + & \text{potassa} & = & \textit{dichloride of allylene} & + & \text{potassium chloride} & + \end{array}$$

$$\begin{array}{ccccc} + & KCHO_2 & + & H_2O & \\ + & \text{potassium } \textit{formate} & + & \text{water}; \end{array}$$

and in this case dichloride of allylene is just as unstable as the dichlorallylene mentioned previously, so that the deterioration of chloroform may be owing to the presence of either compound.

Now, since, in the preparation of chloroform from alcohol and chlorinated lime, the intermediate formation of chloral is generally accepted as a fact, it was supposed that an absolutely pure chloroform could be produced by decomposing pure chloral hydrate with alkalies; and this idea was actually carried out in practice, very large quantities of such chloroform being manufactured in Germany, chiefly by Saame & Co., in Ludwigshafen.

Unfortunately, however, the expectation of its superior purity and stability has not been realized. It costs a good deal more than ordinary chloroform, but it is not by any means more stable than the latter. Of three samples of chloroform, one of which was prepared from chloral, which were exposed to the sunlight in half-filled bottles, one sample consisting of ordinary, and the sample of chloral-chloroform were decomposed with equal rapidity, while the third sample, being purified ordinary chloroform, remained unaltered even after standing six months.

In connection with the above-mentioned compounds, which are mostly derived from the ethyl series, we desire to mention another substance also used as an anæsthetic, and frequently used as a substitute for chloroform. We mean the compound CH_2Cl_2, methene chloride, or dichloromethane, usually called *bichloride of methylene.* The chemistry of the latter may be briefly explained as follows: The starting-point of the methyl series is the saturated hydrocarbon CH_4, methane, or marsh-gas, an incondensable gas of spec. gr. 0.559. Chlorine does not act upon it in the dark; in diffused daylight it displaces one atom of hydrogen, forming methyl chloride, or chloromethane:

$$CH_4+Cl_2=CH_3Cl+HCl.$$

This latter body, however, may be more easily prepared by heating a mixture of 2 parts of sodium chloride, 1 part of methylic alcohol, and 3 parts of sulphuric acid. It is a colorless gas of sweetish taste and peculiar ethereal odor. The presence of an excess of chlorine successively causes the replacement of more atoms of hydrogen by chlorine, so that we have the following series:

CH_4 methane;
CH_3Cl methyl chloride, chloromethane;
CH_2Cl_2 methene chloride, dichloromethane (*bichloride of methylene*);
$CHCl_3$ methenyl chloride, trichloromethane (*chloroform*);
CCl_4 carbon tetrachloride.

The third compound of this series, the commercial *bichloride of methylene*, is generally prepared by exposing to daylight in a glass globe chlorine gas and gaseous methyl chloride. The globe is provided with two lateral tubes for the admission of the gases, and below with an open neck, which communicates with one of the tubulures of a Woulff's bottle, of which the other tubulure communicates by means of a bent tube with another Woulff's bottle, and this by another bent tube with a flask. The second bottle is surrounded with ice, and the flask immersed in a freezing mixture to condense the volatile products. The bichloride condenses in the flask in a pure state, while the contents of the two Woulff's bottles consist chiefly of chloroform.

Methene chloride, or, to retain the less correct term, *bichloride of methylene*, is therefore rather troublesome to prepare, and higher in price than chloroform, which latter may be prepared in many ways, starting from methyl, ethyl, or even amyl alcohols. Hence it is not uncommon to find chloroform substituted and sold for the other more expensive anæsthetic They may, however, be distinguished by their boiling-points and specific gravities: chloroform has a spec. grav. of 1492 at 17° C. (62.6° F.), and boils at 63.5° C. (146° F. according to Pierre, but 142° F. according to U. S. Ph.); bichloride of methylene has a spec. grav. of 1360, and boils at 41° C. (106° F.).* A further distinction is their behavior to a flame: chloroform burns with difficulty with a green-bordered flame, while the other liquid burns with a very smoky flame. A solution of iodine in chloroform has a reddish-violet color, while a solution in bichloride of methylene looks more like an alcoholic tincture. It has also happened that chloroform mixed with alcohol, to reduce the spec. gravity, has been substituted and sold for the bichloride. This fraud may, however, easily be detected by shaking it with water, which removes the alcohol.

MISCELLANEOUS NOTES FROM THE ORIENT.

BY PROF. XAV. LANDERER, OF ATHENS, GREECE.

On Parasitic Plants.—Garden beans (*Vicia Faba*) are frequently overrun with a parasite, which in a short time—six to eight days—causes the destruction of a large number of the plants. This parasite is *Orobanche maxima*, which derives its name from ὄροβος, Latin orobus or ervum, "sweet vetch," and ἄγχειν "to choke," being already well known to the ancients as an enemy to leguminous plants. This appears specially from the fact that a temple had been erected at Athens to Apollo, with the attribute Kyamites, as protector of the bean-crop."†

Another parasitic plant is met with upon oak trees. This is *Viscum quercinum*, mistletoe of the oak, ἰξός, which was used in olden times for preparing bird-lime. The Druidical priests, who gathered the plant by cutting it with a golden scythe, employed it as a panacea, particularly against poisons.

The common savory, *Satureia Thymbra*, as well as the common thyme, are often so covered and intermixed with the parasitical *Cuscuta Epithymum*, that they can hardly be distinguished. This plant is called by the common people "fox's silk," and is used as a very popular remedy against dropsy.

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* From a paper of J. Biel, in *Pharm. Zeit. f. Russl.*, 1877, No. 11; and a paper in *L'Union Pharm.*, 1877, 181, with additions by Ed. N. R.

* Not at 30.5° C. (87° F.), as Fownes has it. This is the boiling-point of the isomer of bichloride of methylene, namely chlorinated methyl chloride CH_2Cl_2, which has a spec. grav. of 1344.

† We differ from our friend, Prof. Landerer, in the interpretation of the name Kyamites (Κυαμίτης). It is simply derived from *Kyamitis* (κυαμῖτις, namely, ἀγορά) "the bean-market" at Athens, and implies merely a distinction from other temples erected elsewhere. So far as we know, this appellation has never been applied to Apollo himself; it was the name of an Attic hero, according to *Paus.*, 1, 34, 4; or else of a "bean merchant," according to *Photius*, 182, a.

On the Use of Maritime Plants.—Divers often bring up from the bottom of the sea gigantic mollusks, the shells of which betray by their size and thickness the great age of the animal, being completely enveloped in algæ. These latter are used as a popular remedy in diseases of the lungs, in dysuria, and the calculous diathesis.

Remedy in Albuminuria.—All species of *Pistacia* occur in Greece, and are cultivated in gardens. The fruit, pistachio nuts, are made into a sort of confection, and are used by Oriental ladies for producing obesity. The largest plantations are upon Scio (Chios), where twenty-three villages[*] are engaged in the collection of *Mastich*. The revenue of the mastich planters amounts to about 5,600,000 francs annually.[†] Another species, *Pistacia Terebinthus*, is the source of the "Chian Turpentine." An important property, however, of a decoction of *Pistacia* leaves appears to be its salutary effect in albuminuria. I have had occasion to make many analyses of albuminous urine, and have noticed myself a frequent gradual diminution of albumen, and sometimes entire cessation of it in the urine of persons who were treated with a decoction of *Pistacia* leaves. The name *Pistacia* is said to be derived from πίσσα, pix, "pitch," or resin, and ἀκέομαι, "to heal," because it contains a "healing resin."

Fish-Poisoners.—Greek fishermen are in the habit, in spite of heavy penalties, of catching fish in rivers or bays by poisoning the water with bundles of an euphorbiaceous plant, *Euphorbia segetalis*, formerly named Tithymalus; now called φλόμος in Greece. Fish poisoned by these plants do not keep long, and are injurious to persons eating them. The so-called *Fish-berries*, from *Cocculus Indicus*, semina piscatorum, are also used for such purpose, small baskets containing them, mixed with other bait, being let down to the bottom of the water in small retired bays. The eating of such poisoned fish is highly dangerous.

Wheat-Bran.—An excellent popular remedy, also much used by regular physicians against bronchial disorders, is a decoction of wheat-bran (πίτερα or πίτυρα), mixed with eggs and sweetened with honey and sugar.

On Egyptian Mummies.—The embalming of bodies in ancient Egypt was preceded by the removal of all internal organs (intestines, heart, lungs, etc.), and even the eyes, in place of which artificial ones, painted upon tin, were introduced. The bodies were then impregnated with asphalt, or liquid petroleum,[‡] mixed with aromatic herbs, and dried in the sun or in specially constructed furnaces, or else by burying in the hot sand of the desert. They were also wrapped into broad linen bandages, several hundred yards in length, which have a very bitter taste and were most probably saturated with a solution of olibanum and myrrh, and covered with a solution of gum sarcocolla, an exudation of *Penæa mucronata* and other species of *P.* The fact that *wax* has been found in some mummies, which was supposed to be the means of conservation, has been the origin of the word *mummy*, from Pers. mōm (mūm), wax.

(To be continued.)

SCENT-YIELDING PLANTS AND THEIR PRODUCTS.[§]

By G. W. Septimus Piesse, Ph.D., F.C.S.

I propose to describe the scent-yielding plants, their culture and their products, and so must needs say a few words by way of preface, because certain parts of nearly all plants yield odor, as, for example, mint and patchouly, from the leaves; orris and sumbul, from the root; cinnamon, from the bark; nutmeg and caraway, from the seed; roses and violets, from the flowers; sandal and cedar, from the wood; yet, of the thousands of plants that are somewhere in themselves fragrant, there are but few—wonderfully few—that are cultivated as scent-yielding plants in a commercial point of view. To these I will more particularly confine my observations, and first of all I will take

The Rose.

> Its breath
> Is rich beyond the rest, and when it dies
> It doth bequeath a charm to sweeten death.

There are two methods of obtaining scent from the rose, both operations being carried on to a considerable extent.

The Cabbage Rose (Rosa centifolia).

In Roumelia the flowers are distilled for the purpose of obtaining the attar or otto of roses. In the south of France the *enfleurage* process is adopted, which yields a spirituous scent of the rose. The principal rose-farms on which the distilling process is adopted are situated in the valley of Kézanlik, in Roumelia, at the foot of the Balkan mountains; the principal town (Kézanlik) being now easily found on the war-maps of the day. The province of Kézanlik extends for about forty miles east to west, and is watered principally by the river Thunga. It contains many small villages, the peasants of which are employed in rose culture. The only rose cultivated for its scent, both in Roumelia and in France, is the Provence or cabbage rose. It can be planted either in spring or in autumn. On Messrs. Collas & Christoff's farm, where roses are grown, parallel furrows are cut at distances of 5 feet apart, 4 inches deep, and the bushes are laid, not cut, but so broken off as to have a portion of the old root attached to them; these are then covered up with earth and a little manure; if water be near, the furrows are inundated, otherwise the grower trusts to what may fall in the shape of rain. In six months the young shoots appear and are then earthed up. During the first year they make about 4 feet of wood; the second year a few flowers are produced, but a crop is only secured in the third year; the plants then begin to have the aspect of thickets, which soon become perfect hedges 6 feet high, and which will bloom well for fifteen years. During this period dead wood is cut out, but the bushes are not pruned in the ordinary sense of the word.

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[*] Μαστιχοχώρα, masticho-chora, is the name of the "Mastiche District."

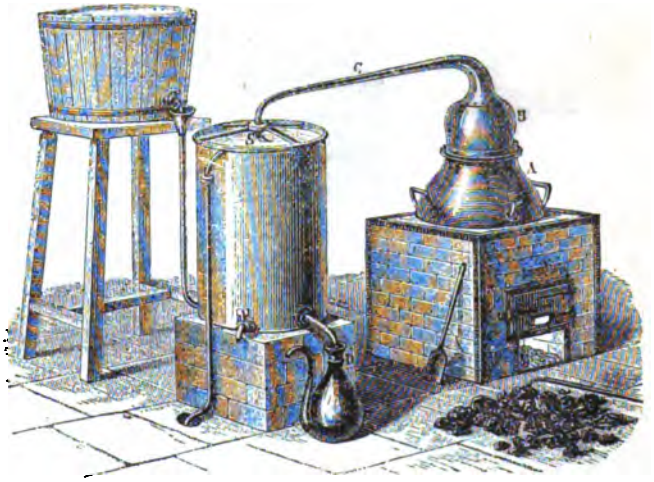
[†] This is at least ten times as much as is actually the case. According to Flückiger and Hanbury, the exported mastich in 1871 represented the value of £15,433.

[‡] πισσάσφαλτος, "asphalt with pitch," Dioscor. Cf. Her., 4. 195: πίσσαν, ὀδμὴν ἔχουσαν ἀσφάλτου, pitch which has the odor of asphalt.

[§] From *The Garden*.

The Balkan mountains keep off, in a great measure, north and west winds; nevertheless, in spring the roses often sustain great injury from frost.[*] As a rule, the rose harvest begins in the middle of May, and consequently this is the time for distilling, an operation which lasts for, say, twenty-five days. Suppose a plantation to produce in one season 25,000 lbs. of flowers, there must be gathered and distilled 1,000 lbs. each day. The flowers are gathered before sunrise and are distilled by noon of the same day. As seasons differ, so do the crops and the quantity of otto produced. The amount of otto is greatest when the temperature at the time of distilling is low, and *vice versâ*. When the weather is warm there is an abundance of bloom, but the yield of otto is less; favorable weather is, therefore, better than large crops of blossoms The stills are on the same principle, as regards construction, in all parts of the world where there are flower-farms, but they vary considerably in size. At Mitcham, in Surrey, Piesse & Lubin's stills hold one ton and three-quarters of a ton respectively; these are used for distilling peppermint, lavender, cloves, caraways, etc., while the stills employed by M. Herman, of Cannes, only hold half a hundred-weight; these are used for distilling orange flowers. The rose-stills used at Kézanlik hold about two and a-half hundredweights. The still is a copper vessel or boiler, known as the alembic (A), broad at the base and becoming narrower towards the top, on which is fitted the dome or neck (B), to which is attached the condensing pipe (C). Water and roses are put into the alembic, then a fire is lighted under it, and when the water boils the steam generated carries forward the attar from the roses into the refrigerator (S): the otto floats on the condensed water and is thus collected. On an average it requires 3,000 lbs. of blossoms to produce 1 lb. of attar—say 16 ozs.—otto of roses always being sold by the ounce, which in Turkey is somewhat more than the English ounce.

The Damask Rose (Rosa damascena.)



Still and Condenser.

Baring, in his report on the exports of Roumelia, recently published by order of the government, gives the following summary of the production of attar in Roumelia previous to the Russo-Turkish war:

	Ounces.
Kézanlik	27,776
Guenpsa	12,064
Karaja-Bohg	6,144
Tchirpan	2,592
Koyoun-Tépé	1,888
Pazardzik	1,760
Yeni-Zaaghra	1,728
Zaaghra	1,568
	55,520

This estimate is based on the average production of the last ten years, but in 1866 it reached 96,000 ounces, and in 1872 it fell to 27,000 ounces. As to the commercial value of the attar, it may fairly be estimated, when pure, at from 25s. to 30s. per ounce. In round numbers we may therefore say that the rose-farms of Roumelia are worth £70,000 to £80,000 per annum ($340,200.00 to $388,800.00). That rose and other farms can be established in Fiji, Queensland, and at Swan River, I have but little doubt, and to land-owners there I commend the figures just recorded.

Modes of obtaining the Scent.—Many flowers, according to the method adopted to extract the perfume, yield more than one scent; it is so with even the same variety of rose; when distilled it furnishes the well-known attar, and coming as it does direct from the flowers, one would imagine that it would smell like them, but it does not; it has a very pleasing odor, but certainly not exactly like that of the rose, which is only obtained by the process of *enfleurage* and *maceration*. It is now a well-known fact that fatty substances absorb scents. If we spread very clean grease—say a butter made of a mixture of lard and beef suet—upon a plate, then sprinkle freshly gathered scent-yielding flowers upon it, covering the whole with another plate, leaving them thus together for a few hours, the butter will absorb the odorous particles, becoming itself fragrant; again, if the butter be melted at as low a heat as possible, and the flowers be put bodily into it and left there for a time, the grease also in this way becomes scented; the former is called the *enfleurage* process, the latter the *maceration*. Roses are treated by these joint operations, but some other flowers, for practical reasons, are worked by one or the other only. In the valley of the Var, Alpes Maritimes, France, an important industry in this direction exists. Farms for the growth of flowers, and vast laboratories for their manipulation, are to be found at Grasse, Cannes, and Nice, where roses are cultivated in a very similar manner to that already described, but they are not allowed to form themselves into hedges, as in Roumelia. During the flowering season the air is laden with fragrance, and women and children gather the blossoms, which they place in little panniers like anglers' baskets hung over the shoulder; they are then carried to the laboratory and weighed, the weighing determining the earnings of the garnerers.

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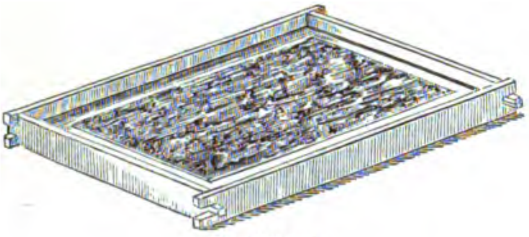
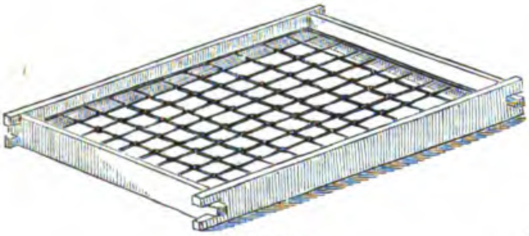
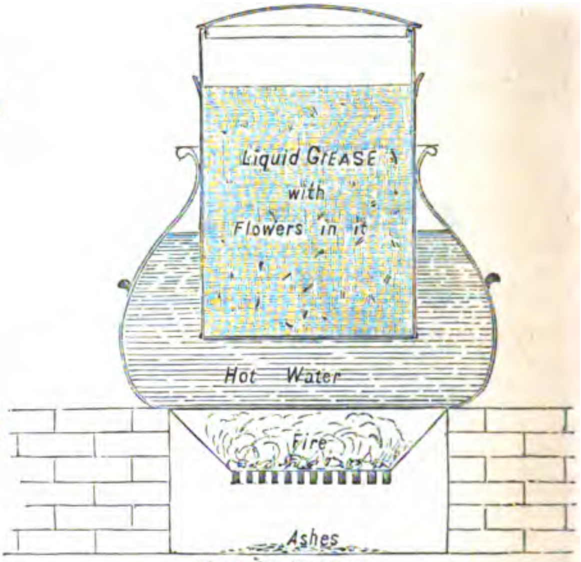
[*] [The entire rose-growing district has now become desolate, the villages having been burned and the fields destroyed by the Russian and Turkish armies. See page 230 of October number.]

In the laboratory, anticipating the harvest, great quantities of the butter have been collected, melted, washed, and clarified. The success of this process depends on the absolute purity of the grease, and no pains are spared to effect this end, the fat being repeatedly melted with a good bulk of alum, salt, and nitre; then it is washed over and over again with plain water, and rose and orange water; finally, it is again melted with a little gum benzoin. The butter, thus purified, loses all traces of its animal origin; it is odorless as the purest water, but wonderfully ready to absorb fragrance from scent-yielding substances near it. In each laboratory there are several thousand *chassis* (sashes), or framed glasses, upon which the grease to be scented is spread, and upon these the blossoms are sprinkled or laid. The *chassis en verre* is, in fact, a frame with a glass in it, as nearly as possible like a window-sash, except that the former is 2 inches thicker, so that when one *chassis* is placed on another, there is a space of 4 inches between every two glasses, thus allowing room for blossoms. Each *chassis* is about 2 feet long and 18 inches wide. The roses are changed every day, or every other day, as may be convenient; the same butter remains in the sash for, say, about two-thirds of the time during which the roses are in bloom, but each time fresh flowers are put on it is "worked," that is, serrated with a palette-knife, so as to present a new surface to the flowers.

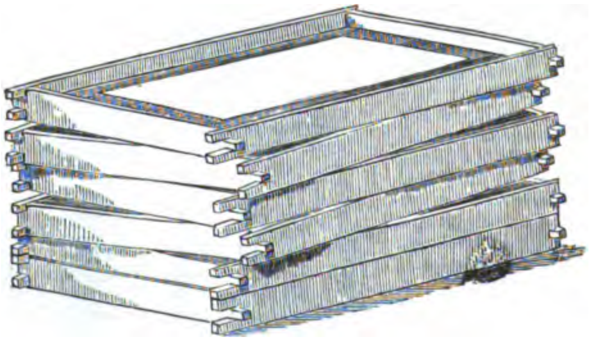
The butter, being enflowered in this way for the given time, is then scraped off the several frames, and liquefied in an appropriate vessel placed in a hot-water bath. Fresh roses are then put into the liquefied grease, and there they remain for a few hours; then the butter is carefully strained into a similar vessel, to which fresh flowers are added, and this operation—maceration—is repeated until the end of the rose season. Finally, the butter is again strained and poured into tin canisters. When cold it has a most delightful and natural scent of roses, and is now fit for exportation to all parts of the world.


Glazed Frame.


Wired Frame.



Macerating Apparatus.


Stacks of Wired Frames with Molletons.

Olive oil can be enflowered in a similar way to butter, but in place of glass the frames are filled with coarse wire gauze; these are called *chassis en fer*. Upon the wire net is laid a *molleton*, or very thick cotton fabric resembling the fluffy towels now in use, and soaked with fine oil. After continuous changing of the blossoms the *molletons* are folded together, and the oil is squeezed out by the aid of a screw-press; then this same oil is slightly warmed and charged with fresh flowers for many days, and finally strained; it is then ready for sale. Both the butter and the oil acquire a good color from the pollen of the flowers, but no tint is communicated by the petals.

The Perfume.—In order to obtain the scent of the rose in the form used for scenting handkerchiefs, we have to infuse the enflowered butter or oil in strong alcohol—that is, a spirit containing not less than 90 per cent. of absolute alcohol. The solid butter has to be cut up fine or granulated under what may be termed a macaroni press; it is then put into the spirit, and there allowed to remain for several days. If oil be used, it must be shaken up daily with the spirit, the result being that the spirit extracts all the odor from the fatty body, and becomes itself "perfume," while the grease, on the other hand, becomes odorless. As a rule, it requires 5 pounds of blossoms to enflower 1 pound of grease, and 8 pounds of the best of this is used to every gallon of alcohol. The spirit comes away from the butter quite bright, and of a pretty pale emerald color. To every gallon of rose perfume thus made must be added one ounce of Roumelian attar, and in this way the finest rose-scent is obtained. Numerous valuable products are also obtained from *Rosa centifolia* and *R. Damascena*, which will not be described here.

(To be continued.)

IMPARTING A BLUE COLOR TO SOAP.

To the Editors of New Remedies.

Mr. Editor—In your October number of New Remedies one of your correspondents asks what chemical added to soap will color it blue?

This is *copperas*. The soda lye used for making soap always contains more or less sulphuret of sodium. The mottled soap (Castile soap) is colored in this manner.

Yours truly,
Hans. M. Wilder.
N. E. cor. Eighth and Diamond Sts.,
Philadelphia, Oct. 28, 1877.

THUJA OCCIDENTALIS.

We have recently received a number of queries relative to the nature and uses of the arbor vitæ, and in our last number we gave formulæ for its preparation. Since then we have solicited from Dr. James R. Leaming, of this city, some information regarding it, and have received in reply the subjoined memoranda. Dr. Leaming is by no means an enthusiast concerning the value of the remedy, and does not claim for it any extraordinary powers, but he has for some years past been accustomed to use it occasionally, and says concerning it as follows:

"The fluid extract or saturated tincture may be given in drachm doses from three to six times daily.

"It may be given for malignant disease or for pulmonary hemorrhage in a glass of milk or in cod-liver oil.

"It may also be applied to cancerous ulcerations or tumors. It may be applied in the cavity—in the os—or to the cervix of the uterus in malignant disease, or in non-malignant, when there is a flabby condition of the parts with a tendency to bleed; and also, under the same conditions, to the throat. It may be applied to warts, and especially to venereal warts.

"It may be given in amenorrhœa from simple causes, but does not affect a healthy gravid uterus.

"The elixir of thuja and glycerine is a more elegant mode of administering the medicine, and is a valuable substitute for cod-liver oil.

"The glycerole may be made into suppositories, or it may be mixed with the fluid extract, for application to the os uteri upon a pessary of cotton.

"This medicine may become very useful to the practitioner in the treatment of malignant disease, especially in diminishing tendencies to bleeding and rapid progress of the local disease. It also relieves the violence of pain. In some cases the disease has disappeared under its use—not always.

"The preparations of Mr. H. N. Lawes, druggist, corner of Twenty-third Street and Eighth Avenue, are carefully prepared, and are efficient and reliable." [See page 317.]

The literature referring to this drug is quite limited. A. Kawalier, of Vienna, discovered a bitter principle, which he called *pinipicrin* (found also in Pinus sylvestris), a volatile oil, sugar, gelatinous matter, a variety of wax, resin, and tannic acid (*Chem. Gaz.*, Feb. 1, 1855, p. 45); and more recently a peculiar crystallizable coloring principle, which he termed *thujin*, another yellow substance, which he called *thujetin*, and still a third, *thujigenin*; also a variety of acid, which he named *pinitannic*. Kawalier's second paper in the *Chem. Gaz.*, Nos. 392–3, pp. 61 and 68, 1859, is said to contain a full description of the processes he employed.

Regarding the properties of thuja, the wood when burnt gives off an agreeable smell, which led to its former use for sacrificial purposes. A salve made with the leaves used to be a remedy employed by the Indians for the relief of rheumatism, and a poultice of the leaves made with milk has been highly spoken of for the same purpose. By distillation the leaves yield a yellowish-green volatile oil, which has been used as a vermicide. Boerhaave praised the action of the distilled water as a remedy for dropsy.

Some years ago Dr. Leaming contributed to the *N. Y. Journal of Medicine* (N. S., xiv., 406), a paper on the use of thuja in affections believed to be cancerous, and in venereal excrescences, and in 1856, in the same journal, Dr. Benedict recommended the strong tincture as an emmenagogue.

Thus far thuja appears to have been employed empirically only, but it would seem, on reviewing the affections in which it had been of service, that its action may be explained by a property somewhat similar to that possessed by ergot, namely, of causing contraction of unstriped muscular fibres. This would explain, in some degree, its alleged power of controlling capillary hemorrhage, and the growth of vascular tissues like cancer and condylomata.

THE REVISION OF THE UNITED STATES PHARMACOPŒIA.

Since the issue of the circular* proposing a plan for the Revision of the U. S. Pharmacopœia, the undersigned chairman of the committee has received a number of replies, both from members and from others, which contain suggestions worthy of consideration. In order to enable those, who take an interest in the work, to keep abreast of the progress made in the general plan, as well as to elicit their views, the undersigned proposes, from time to time, to give an abstract of whatever there may be of interest in the correspondence of the committee.

The first proposition of the circular, relating to the alphabetical arrangement, appears to have been generally approved. The necessity or utility of making general headings of classes, in which such remarks might be made, as are applicable to the whole class, has been questioned, chiefly for the reason that such remarks would be superfluous, if each formula, as it really ought to be, were made complete in itself. One member prefers a classification similar to the one adopted in Squire's Companion to the British Pharmacopœia, which gives all preparations under the head of the crude drug or chemical which enters into it as chief constituent. The majority of the committee appears to favor the plan followed in the German and other Pharmacopœias, to enumerate certain crude drugs in classes, such as Cortex, Flores, Folia, Fructus, Herba, Lignum, Radix, Rhizoma, Semen, Tuber, etc. The chief objection to this change, however, is, that in the majority of cases two words would have to be employed to do service for *one*. Wherever we employ only *one* portion of a plant, as, for instance, of buchu *the leaves*, of krameria *the root*, of eupatorium *the whole herb*, there is hardly any need for special distinction, at least so far as the title of the article is concerned. Those cases, where more than one portion of a plant is officinal—as the *leaves* and the *root* of belladonna, the *corm* and the *seed* of colchicum, etc.—are much less numerous, and pharmacists have become so accustomed to the present arrangement, that it becomes doubtful, whether a change in this direction is desirable. One member of the committee particularly lays stress upon the practical side of the question, namely the ease and rapidity with which any name may be found at once, in the Pharmacopœia, if each article is classed under its generic name, such as "Senna," "Belladonnæ folia," and "Belladonnæ radix." In connection with this it may be stated that Prof. Albert B. Prescott recommends to place under the head of each article a list of the preparations into which it enters.

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* October number, page 309.

The list of new drugs and new preparations under § 3 has been found pretty full; at least no further additions have reached the undersigned up to the present. A number of substances, however, have been objected to, or have been designated as useless, all of which will be discussed at a future opportunity. Further criticisms or new proposals are solicited.

The list of chemicals, for which formulæ are to be given in the Pharmacopœia, has not yet received the attention which it requires. One member of the committee proposes to strike out calcii phosphas; ferri pyrophosphas; hydrargyri ammonio-chloridum; potassii sulphuretum; antimonii oxysulphuretum, and zinci phosphidum; and he desires to have added quinia and the other cinchona alkaloids with their salts, morphia and its salts, and strychnia and its salts. Against the latter proposition, namely, to give formulæ for the preparation of alkaloids, the objection must be made, that no process, capable of being worked on the scale of the Pharmacopœia, could ever yield a pure or salable product. The only object in giving such formulæ, could be to furnish a guide for the assay of the crude drug. Hence it appears preferable to annex to the articles Cinchona, Nux vomica, and Opium (and perhaps to others), paragraphs detailing the best method for assaying the amount of the respective alkaloids or other active principles.

The proposition to add to each chemical, admitting of it, its formula according to the new notation, has been somewhat modified by one member, who recommends to add the formula according to the old notation in brackets. This would, of course, have to be in different type, but would be a useful addition for the many pharmacists who have been trained up in the old nomenclature, and have not found time to master the new. The peculiar position of the proposed new Pharmacopœia as a transition-link between old and new times seems to make duplicate expressions of temperature and chemical composition advisable.

The most important paragraph of the circular, namely § 8, has elicited a good deal of discussion, and is likely to do so for some time to come. In view of the necessity of arriving at a satisfactory solution of the problem as speedily as possible, the undersigned submits the following extracts from the communications received to general consideration. Prof. C. Lewis Diehl writes: "I regard this as one of the most difficult problems that we have to encounter. Its proper solution will require a great deal of *very careful* labor. The conversion of volumes into weights is comparatively easy in the majority of preparations; but with others —*e.g.*, the fluid extracts—it is attended with much difficulty. Another question, that cannot be put aside altogether, is this: Can the average American pharmacist be entrusted with the production of preparations the eventual strength of which is dependent upon the careful determination of the specific gravities of the menstrua he employs—not to speak of the thoroughness with which the drug must be exhausted? or, if qualified, will he take the trouble? Will it not tend to throw the production of certain galenical preparations into the hands of manufacturers, rather than, by the very simplification sought, induce their preparation by pharmacists more generally?"

This question of fluid extracts is indeed the most difficult to decide. The proposition contained in the circular, which had been suggested by Dr. E. R. Squibb, appears to us to be the only rational solution, *provided, first,* fluid extracts are made to comply with the general rule of being prepared by weight; *second,* their former relationship to measure is still to be sustained; and *third,* the specific gravities of the menstrua employed and the hygroscopic condition of the drug can be controlled without too great difficulty. Let us at once agree, that fluid extracts shall be made by weight. In this case we could offer three solutions of the problem:

1. The above-mentioned process, which yields, probably in each case, a *different* weight of fluid extract, from the *same* weight of crude drug. The specific gravities of the original menstrua employed must be carefully determined. But the product has the advantage of still representing *minim for grain,* as at present.

2. A simple process of exhaustion, in which the percolate, irrespective of its density, is to be concentrated until it weighs say one pound for every pound of the crude drug. One *grain* of this fluid extract would represent one *grain* of the drug. This process is independent of specific gravities, and merely requires weighing of the end-product. Moreover, although the fluid extracts of various manufacturers may vary in *bulk* owing to difference in menstruum employed, yet they will all be alike, so far as weight is concerned. But the objection may be raised here, that in certain cases, as rhubarb, cinchona, etc., it will be very difficult, if not impossible, to get one pound of the drug into a pound of the liquid extract; besides, the increased evaporation in some cases might injure the qualities of the product. Hence a third process might be suggested:

3. To prepare from *one* pound of crude drug *two* pounds of fluid extract. In this case but very little evaporation would be needed, and the formation of sediments, so far as they might be owing to oversaturation, would be prevented. *One grain* of this fluid extract would be equal to *half a grain* of the drug.

The undersigned felt it his duty to place these alternatives before the committee, because each of them has, in a greater or less degree, some advantages, and because they all have been proposed at some time or another.

Prof. Diehl further remarks: "Some attention should be paid to synonymes. There are many physicians, who still adhere to, or affect old and obsolete terms for chemical and pharmaceutical preparations. These could be given without materially increasing the bulk of the work, and they seem to be as important as the tables which are to be embodied into it." "Our Pharmacopœia has undergone many changes since its creation; many preparations, still prescribed by some of our older physicians, have been dropped, and no record is kept of them in our commentaries or dispensatories. I consider it advisable to embody these in smaller type, in the form of an appendix, to the new Pharmacopœia. The merest outline of the formula would be necessary, perhaps in this shape:

"*Tinctura Cinnamomi composita* (U. S. Ph., 1850).—Cinnamon, ℥ i.; cardamom, ℥ ss.; ginger, ʒ iij.; dil. alcohol to Oij.

"*Tinctura Rhei et Gentianæ* (U.S. Ph., 1850).—Rhubarb, ℥ ij.; gentian, ℥ ss.; dil. alcohol to Oij.

"These formulæ might also be changed so as to give parts by weight."

In reply to a second circular of the undersigned, containing among others the question, "What change, if any, in the menstrua of fluid extracts and tinctures shall be made, so as to retain all useful constituents in solution, and still to have no excessive alcoholic strength?" Prof. J. P. Remington writes: "The great mistake in many of the individual formulæ is the attempt to make too many of them uniform, whilst we know that a different solvent in almost each case would be preferable. The point is, to try, by a series of carefully conducted experiments, various menstrua, until the proper one is selected for each drug, and not to be led astray by endeavoring to have as many as possible made by the same process. I believe that there is too much glycerine used, and that it is objectionable on account of its powerful solvent properties. Like an over-enthusiastic friend, it gets us into more difficulty than we know well how to get out of. . . . I think the proper plan is to use as little alcohol and glycerine as possible, or in other words, to determine the *smallest* amount of either of these liquids which would be sufficient to *exhaust* the drug and *keep* the product." And Prof. Diehl says: "To solve the question properly, very careful, accurate, and intelligent work is required. I think I do not go too far when I claim that the fluid extracts are the most important among the galenicals of the present day. They are so, not alone because of their intrinsic value as concentrated and convenient representatives of vegetable drugs, but also because, when properly prepared, they may represent the solid extract, the tincture, the syrup, and the wine. The three latter classes of preparations, together with infusions (!) and decoctions (so-called), are at this day very largely made from them by the great majority of 'druggists.' Solid extracts not so generally, because it is not *profitable* to convert *purchased* fluid extracts into solid extracts, and because, when fluid extracts are prepared by the officinal method, many of them cannot be so converted. Now, whatever may be our opinion of the present practice of 'druggists,' this much is certain, that a fluid extract *should*, and *can* in most cases, be made so as to represent a definite quantity of the drug accurately, and that therefore wines, syrups, or tinctures can be made from them of as reliable quality as by the present distinct process, and with much greater convenience. If, in addition to this, we can dispense with the use of glycerine or sugar, we have in the fluid extract also a convenient medium for preparing the solid extract. The present general process for preparing fluid extracts has some points in its favor. It is simple and explicit, and it aims at the exhaustion of the drug with a minimum quantity of menstruum, and at the exposure to heat of a mininum quantity of extractive matter. If all the conditions of the Pharmacopœia are fulfilled, we can, in most cases, secure a good fluid extract. The difficulty, however, consists in uniformly complying with these conditions, and in applying them on a more extensive scale. It is not my purpose to go at present into details; but in the revision we should aim to so construct the formulæ: 1. That practical exhaustion of the drug is secured, even if it becomes necessary to obtain a much larger quantity of *second* percolate than is now prescribed. 2. That the process shall, with a reasonable amount of attention and skill, secure a uniformly reliable product. 3. That the use of glycerine, or other non-volatile body, shall be dispensed with, when not absolutely necessary to the preservation of the preparation; and 4. That the menstruum shall be conformable in strength, whenever practicable, to the strength of that used in preparing the corresponding extract, tincture, etc. In illustration of this point the following inquiries present themselves:

"1. What is the weakest alcoholic menstruum that will completely exhaust the drug and will retain and preserve the dissolved matter?

"2. Is the preparation suitable, in its alcoholic strength, for medicinal purposes?

"3. Can it be reduced in alcoholic strength, if necessary, by the introduction of glycerine, sugar, etc., without injury to its activity?

"4. Can it be increased in its alcoholic strength, without injuring its activity or medicinal use?

"The first and second points being decided, we have comparatively plain sailing; in most cases we will probably find that extract, tincture, wine, and syrup can readily be prepared from the fluid extract. It may be, however, that the preparation is too strongly alcoholic for medicinal application; in that event, inquiry 3 may give the solution, and while the preparation may then no longer be suitable for preparing the extract, it may still be applicable to the preparation of the tincture, wine, and syrup. On the other hand, the preparation may be too weak for preparing the extract, etc., and will bear an increase in its alcoholic strength as decided by inquiry 4; in this case it may then still be useful for preparing the four galenicals mentioned above. In conclusion, I may say that I desire to throw these ideas out for the present merely as suggestions, to be discussed by the other members of the committee, and to subject them to their approval."

The views of other members of the committee, who have responded to the circular, and of others, will be communicated on a future occasion.

CHARLES RICE, *Chairman.*

OPIUM CULTIVATION AND TRADE IN INDIA AND CHINA.

ACCORDING to the most reliable authorities, opium was introduced from Turkey and Arabia into India by the Mohammedan rulers, who were acquainted with it long before the people. Its use among the latter—excepting as a medicine—dates back, in India, only a little over 100 years. From India it probably took its way over Assam, Burmah and Thibet, into the Chinese provinces of Yun-nan, Sze-chuen, Shen-si, and Kwei-choo.

The right of growing opium in India was already a monopoly of the government under the Mogul sovereigns, who sold the privilege to the highest bidders; and this policy was adopted by their successors, the East India Company. The crop produced was originally used only for medicinal purposes; but some time about the year 1760 it appears to have gradually become known as a powerful intoxicant. Before 1767 the exportation of Indian opium to China rarely exceeded 100 chests annually; in that year it rose to 1,000 chests, at which figure it remained for some time afterwards. The East India Company itself made its first venture in 1773, and in 1798–9 the annual export had already risen to 4,000 chests.

During the reigns of Yung Ching and Kien-Lung (1723–1795) it was included in the tariff of maritime duties, under the head of medicines, and there was then no regulation against purchasing or smoking it.

It was only in 1799 that its importation into China was interdicted, and smokers of "the vile dirt of foreign countries"—as it was termed—were threatened with severe punishments, gradually raised to transportation and strangling.

Up to about 1829, the policy of the East India Company was, to limit its production to a moderate quantity, seldom over 4,500 chests, and to confine its cultivation only to such districts as could produce it of the best quality and at the lowest cost. They also took measures to prevent its use, except medicinally, in their own territory; and hence they caused the crops growing in the districts of Bangulpore and Rungpore, where it had been extensively cultivated, to be entirely destroyed. In accordance with their deliberate policy of employing taxation less as an instrument of raising revenue, than as a preservative of the health and morals of the community, the Directors at that time assumed the exclusive control of its growth and sale, and made their charge for it as high as possible. In consequence thereof the home consumption was very moderate; even as late as 1868–9 only about 3,400 chests (value £300,000; profits £200,000) being consumed at home, while 50,000 chests went to China. But the native states of central and western India, who are, or were, in a measure independent, consumed very large quantities; the Rajpoots and Sikhs, who are confirmed opium-eaters, consuming as much as 20,000 chests.

The independence of these native states is fettered by the presence of a British Political Resident, but, as far as opium cultivation is concerned, no interference is made. This difference between British and native territory divided the opium concerns of the Company into two quite dissimilar sections, namely, "Patna" and "Malwa," the former being produced on British territory, the latter in the native states. But *Patna* (and *Benares*) opium is alone the subject of the monopoly, constituting about two-thirds of all the opium produced in India, while *Malwa* opium, which is raised independently of British supervision, nearly forms the other third. The monopoly of the government consists in the reserved right of cultivating or permitting the cultivation of the poppy, and the sale of opium.* Now it may be asked, how can the high government prices exist in view of the apparently independent competition of Malwa opium, the export of which takes the usual route over Bombay? The answer is this: As long as the country between Malwa and the sea-shore was in the hands of the Mahrattas, who made the transport of valuable commodities insecure, only a small quantity of opium reached the coast. But when the country along the sea-shore came into English possession, and carriage was safe, and it was seen that any quantity of opium at low price might be exported, the Company concluded treaties with the native chiefs, *compelling* them to grow less, and to sell the opium to the Company. This lasted from 1818 to 1831. In this last-mentioned year, when the Company had acquired the whole sea-shore, excepting only the port of Damaun (the route to which is very difficult), they changed their policy to an import duty on each chest, varying at times from 125 to 700 rs., average lately 600 rs., payable in the native state, before the journey to the coast begins.

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* The price which the government pays for opium raised by private individuals, varies from 4 to 5 rupees per seer (or $0.80 to $1.10 per pound).

All this opium goes to China or to the Chinese residents of the Malay Archipelago. The extent of the traffic can be judged from the fact that in seven years, from 1849–50 to 1855–56, Calcutta exported 234,986 chests, and Bombay 166,446 chests. Of this total of 401,402 chests, 38,647 went to Singapore, Penang, Java, etc.

Previous to this period, however, the cultivation of opium had already spread over large districts of China itself. In 1830, a censor, Shaou Ching-wuh, of Che-kiang, reported its cultivation to have spread within the previous ten years over parts of Che-kiang, Foh-kien, Kuang-tung, and Yun-nan.[*] In 1831 opium was even exported from China to Ava.[†]

The first kind of Indian opium imported in China was "Patna," termed *kung-t'u*, which is made up into balls weighing a little over 4 lbs., and which is principally consumed in Canton and Shanghae. "Patna" was soon followed by "Malwa" opium, termed *kung-tze-pai*, which is chiefly used on the North River of Kuang-tung (Canton), and in the adjacent interior. This was afterward followed by the so-called "Benares" opium (identical in quality and properties with "Patna"), termed *ku-t'u*, which is mostly consumed in the four lower prefectures of Canton,[‡] and is also sent to other provinces. The last foreign kind, finally, is "Persian" opium, or *chin-ta* (*golden*), which is regarded as hot and acid, having a fiery flavor, and causes often dysentery. It is all sent to the province of Kwang-si, as the chilly climate there is said to permit of its use.

In 1834 the Chinese Government took active measures to prohibit the introduction of opium. At the same time complications arose with England, owing to the haughty refusal of the Chinese to recognize the accredited representative, Lord Napier, who unfortunately died only three months after his arrival. He was succeeded by Mr., afterwards Sir, John F. Davis.

All communication between the Chinese Government and foreigners had, at that time, to be conducted through a company of thirteen native firms, styled the "Hong Merchants," or "Co-hong," who were made responsible by their government for the good behavior of the foreigners.[§]

The traffic in opium, although it had to be conducted clandestinely, appears nevertheless to have received the open protection of the foreign representative, as Sir Geo. B. Robinson, the successor of Mr. Davis, transferred his station from Wham-poa, the port of Canton and the only legitimate trading-place, to the island of Lin-tin, the acknowledged smuggling ground off the mouth of the Canton River.

As soon as the native merchants, from fear of punishment, declined to carry the drug in, the foreign merchants began to carry it in themselves in armed schooners manned by Lascars. Armed vessels, in the interest of the Company, patrolled the coast, to prevent opposition to the traffic. But finally the crash came. In 1839 the Chinese Imperial Commissioner, Lin, compelled the surrender to his government of 20,291 chests of opium (value over £2,000,000), all India grown, which he caused to be destroyed. This surrender was conceded, through necessity, by the superintendent, Capt. Elliot, to prevent violence to his countrymen. The effect of this proceeding was the well-known "Opium War," although other questions besides opium were at the bottom of it. In the subsequent treaty (Aug. 29, 1842), which opened the first ports of China to foreign trade, no mention is made of opium, except 6,000,000 dollars as indemnity for that destroyed by Lin.

The failure of all attempts to prevent the importation of opium should have taught the Chinese Government that their previous policy was radically wrong. The first who pointed out the remedy was the mandarin Heu Nae-tze, who, in 1836, memorialized his government to legalize its importation, for the purpose of better control, and who already pictured the sad effects of its use.[*] Neither this application, however, nor various others, made by natives and foreigners, were successful, until some time after the treaty of peace concluded by Lord Elgin at the close of the second Chinese war, commonly known as the Lorcha or Arrow War of 1857,[†] when the Chinese Government placed opium upon its tariff, with an import duty of 30 taels per chest.[‡]

The domestic cultivation of opium in China was carried on, up to 1817, almost solely in Yun-nan; between 1817 and 1848 it spread over Sze-chuen, Kwang-si, and Kwei-chow; and after 1848 the whole of western China became an opium-producing country, to which must be added the eastern provinces since about 1870.[§] In 1872 the product in Sze-chuen alone amounted to 100,000 chests. This native opium is gradually but surely driving the imported from the Chinese market; a chest of Indian opium at the sea-coast is worth 425–510 taels, while native costs only, 250–300.[‖]

The fact that opium yields to the Chinese cultivator from 3 to 6 times the profits, which grain would have yielded, induces, more than anything else, the spread of its cultivation. It cannot fail that terrible consequences must ensue, especially in the interior, where many large districts are without good roads of communication. Insufficient crops of cereals and inability of moving them to destitute districts have often been the cause of terrible famines in China; how much more terrible must be the effects when so much of the soil is devoted to other purposes. Even within the last 10 years the rumor has reached the coast that in Kan-su human flesh was sold for food!

The evil effects of opium smoking are too well known to be detailed here at length; and it is only to be wondered at, how people can be found—and there are many such among the leading diplomats and merchants in India—who defend the practice. They argue that these lamentable consequences result from an *abuse* of the drug, as they would from alcohol, and not from its moderate use. Granted. But can there be such a thing as a moderate opium smoking or eating? It can only be moderate as to frequency of use, but never as to quantity taken, for it must be taken, to appear at all grateful, until it produces its full intoxicating effect. The exhilarating stage of the opium trance is too short and unenjoyable; the only thing wanted is complete intoxication.

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[*] Chinese Repos., v., 372.

[†] Phipps, China and Eastern Trade, 231.

[‡] See June number, p. 180, note †.

[§] The monopoly of the Hong merchants was abolished July 27, 1843.

[*] Among other statements, he asserted that the children of confirmed opium-eaters are barren in the third generation.

[†] Oct., 1856, to June 26, 27, 1858, Treaty of Tientsin.

[‡] Raised afterwards to 36 taels. But, contrary to the treaty, the Chinese Government levy, after the opium is landed, and before the importer can move it, an additional tax, called *likin*; and before it can be taken inland, another, called *tieh-hiang*, so that a chest of 120 catties or 160 lbs., besides the value of the opium itself, was subjected to the following dues:

	Taels.	Mehs.	Cash.		
Tariff duty	36	0	0	=	$51.12
Likin duty	16	0	0	=	22.72
Tieh-hiang	7	0	0	=	9.94
Sycee premium	2	5	2	=	3.58
Total	61	5	2	=	$87.36

[§] Memorandum of Fin. Dept. of Indian Govt., Feb. 23, 1871.

[‖] The cultivation in China of opium is still forbidden by the law. But the high tariff on the imported drug and the connivance of the officials amount practically to a sanction of its cultivation.

In the case of alcohol, however, a judicious man, who has control of his desires, need never exceed the primary exhilaration.

Native inveterate opium-smokers are easily and infallibly recognized by their emaciated, consumptive appearance, stooping gait, raised and bent shoulders, dark yellowish-gray complexion, blue lips caused by imperfectly arterialized blood, projecting and pouting mouth, caused by the large opium pipe; sunken cheeks, from the constant suction, small contracted pupil, unnatural lustre and blackness of the eye, and the dirty forefinger from manipulating the drug over the lamp.

The amount of opium imported into China in 1872 was:

Malwa	4,847,584 lbs.
Patna	2,128,931 "
Benares	982,072 "
Other kinds	117,439 "
	8,076,026 "
Re-exported	36,780 "
Total	8,039,246 "

worth £8,261,381.*

When China first began to cultivate the poppy, it was called *yung-su-hwa*, "jar-shaped flower (or capsule)," and when the juice was extracted, this was called "white smoke" or "white tobacco." Being first raised in Yun-nan, it is also called "Yun-nan white," *Yun-nan pai*. This comes to market in flat cakes, and is used all over China, only the rich using Patna or Malwa. The reason is, that the latter are only sold by the whole ball, costing about 24 dollars, while the native is retailed by the ounce or drachm. Besides Yun-nan, however, many other provinces produce also "white opium," particularly Sze-chuen, Kan-su, Shen-si, and Kwang-si, the product of which latter goes by the name of "Nan Hing White." Another kind, called "Paradise white," *tieng tang pai*, is produced in the magistracy of Sin-hing in Kuang-tung (Canton) province. Many districts have already arrived at a certain choice in taste, by making mixtures of domestic with foreign opiums, to satisfy the particular *goût* of the connoisseurs.†

In conclusion, we append a list prepared by Dr. Dudgeon, of the Peking Hospital, from the statistics of his practice, showing the percentage of *opium smokers* among different professions: small officials, 40%; agriculturists and field laborers, 4–6%; same in opium districts, 40–60%; merchants in Peking, 20%; same at treaty ports, 30%; followers and servants of mandarins, 70–80%; female "attendants," 30–40%; soldiers, 20–30%; the literary class, 20–30%; eunuchs of the palace, 50%; Manchu bannermen, 30–40%; male population generally, probably, 50%; general city population, 40–50%.

The Balance-Sheet of one Extract of Meat Company in London shows that that company alone makes a profit of nearly £60,000 a year out of this preparation. The shareholders get ten per cent., £10,000 is carried to reserve, and nearly £5,000 remains in hand.

Cheap Pencil-mark Eraser.—Caoutchouc is dissolved in carbon disulphide, the solution is intimately mixed with enough starch flour to form a dough, and exposing the mass, in suitable pieces, to the air, until all odor of carbon disulphide has disappeared. The product is an excellent eraser for lead pencil-marks from paper. If, in addition to starch flour finely powdered pumice-stone be added to the mass, it will be suitable for erasing ink-marks or writing from paper.

Water-Cresses as Cigarette-Wrappers.—A curiosity is exhibited at a New York cigar factory in the shape of cigarette papers made of water-cresses. They are manufactured largely in Spain, by a gentleman who was cured of a lung complaint by the use of water-cresses. They are of a greenish color, and of a heavy texture.

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TREATMENT OF DIPHTHERIA. By E. N. CHAPMAN, A.M., M.D. Buffalo, 1877. 8vo, pp. 13. Privately published.

THE treatment recommended embraces the liberal use of alcohol. Quinia and iron are also advised, but alcohol is claimed to be the most important remedy, and capable of greatly mitigating the severity of the disease.

BERICHT ÜBER DIE WELTAUSSTELLUNG ZU PHILADELPHIA. Herausg. von der Oesterr. Commission. IX. FRANZ WILHELM. Pharmaceutische und Technische Drogen und Chemikalien. 8vo, Wien, pp. 80.

IF we should have to furnish a specimen of how a Report on the International Exhibition should *not* be written, we could unhesitatingly offer a copy of the above. It is barely more than a catalogue of the various exhibitors, and their wares, without proper or judicious criticism of the manufactured products, and, moreover, full of mistakes as to names and as to facts. We hope to see more care bestowed on the publications of the Austrian Commission than has hitherto been the case.

TRANSACTIONS OF THE MINNESOTA STATE MEDICAL SOCIETY, 1877. St. Paul, 1877. 8vo, pp. 180. Published by the Society.

WE have before complimented the character of the work performed by this Society, and the papers and reports presented to it. The volume which has just come to hand shows that the Society fully sustains its reputation. Among the items of interest to the readers of this journal are the appointment of committees, on the recommendation of the President, to petition the State Legislature for the passage of laws to govern the practice of pharmacy, and to render vaccination compulsory. The Society adopted a resolution to memorialize Congress for a repeal of duty on quinia, and by another resolution reaffirmed their opinion that the legal test (110° Fahr. flash) for kerosene oil is too low for insuring safety, and asking that it be raised to 150° Fahr. Dr. Otis Ayer, of Le Seur, was elected *President*, and E. Phillips, M.D., of Minneapolis, *Corresponding Secretary*. The next meeting of the Society will be held on the third Tuesday of June, 1878, at St. Peter, Minn.

CUTANEOUS AND VENEREAL MEMORANDA. By HENRY G. PIFFARD, A.M., M.D., and GEORGE HENRY FOX, A.M., M.D. New York: William Wood & Co., 1877. pp. 301.

WE have observed of late such a marked tendency on the part of writers on affections of the skin to issue works in rapidly diminishing sizes, that we are disposed to think that the time is not far distant when some one of them will in brevity rival Mr. Abernethy, of whom the following is reported: Having occasion to lecture upon skin affections as a part of his course on General Surgery, he simply remarked that there were three classes of skin diseases: the first was curable by mercury; the second, by sulphur, and the third, the devil himself couldn't cure.

A very superficial survey, however, shows that the authors of this little work come far short of the conciseness of the famous surgeon, and by careful arrangement and judicious selection have included a large amount of information. It is, however, by no means calculated to take the place of extended treatises, but may be made to serve a very useful purpose in presenting, within brief limits, memoranda which will refresh the memories of those whose time and oportunities do not permit them to keep always posted on the subject. The first portion, on Skin Affections, is by Dr. Piffard; the chapters on Venereal Diseases, by Dr. Fox. The book is published in the style of the well-known "Anatomical Remembrancer," by the same house.

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* Many of the foregoing facts are taken from F. S. Turner, British Opium Policy, 8vo., London, 1876.

† Consul B. Robertson's report in Commercial Reports of H. M. Consuls in China, 1875 [C.—1602], p. 13.

Wood's Physician's Vade-Mecum and Visiting-List. Arranged and prepared by H. C. Wood, M.D., Professor, etc. Philadelphia: J. B. Lippincott & Co.

This differs in some respects from any of the visiting lists heretofore published, and as it belongs to a class of literature too little cultivated by some medical men, we will mention its distinctive features. It is six and a half by four and a quarter inches in size, and half an inch thick—no longer than most of the visiting-lists published, but still too wide for convenience as a pocket-book. Inside of the front cover is an enamelled tablet for pencilled memoranda, which can be cleaned with water and a cloth or sponge; next follow Calendars for 1878 and 1879; Preface; Table of Contents; Decimal, or Metric System of Weights and Measures; Artificial Respiration by Sylvester's and Marshall Hall's Methods; The Symptoms, Nature of, and Antidotes to Various Poisons; List of Doses; Table for Calculating the Duration of Pregnancy, and the Use of Electricity (with illustrations showing course of nerves and points where muscles may best be stimulated).

The visiting-list is without dates, but has the initial of each day at the head of a column, and the top of the page has a blank form to be filled in with the date of the last day of the week. On the right-hand page is the usual space for memoranda, with the addition, at the foot, of a blank for recording office-cash received each day. The arrangement permits the list to be used at any time without reference to the month or year. Tables for recording Obstetric Engagements, Births, Deaths, and Accounts Rendered, follow, and the latter portion is provided with blank pages for memoranda and ruled pages for accounts. Inside the back cover is a pocket and pencil-slide. The binding is red leather to imitate Russia. Altogether, it is a handsome and convenient book.

Address on Obstetrics. Delivered before the International Medical Congress at Philadelphia, Sept. 7, 1876. By Theophilus Parvin, M.D., Professor, etc. Extracted from the Transactions. Privately published. 8vo, pp. 31.

On the Nature, Origin, and Prevention of Puerperal Fever. By William T. Lusk, M.D., Professor, etc. Extracted from the Transactions of the International Medical Congress, Sept., 1876. Privately published. 8vo, pp. 29.

The Virus of Venereal Sores; Its Unity or Duality. By Freeman J. Bumstead, M.D. Extracted from the Transactions of the International Medical Congress, Sept., 1876. Privately published. 8vo, pp. 10.

A New Light on Florida. Pensacola (the Naples of America) and its Surroundings Illustrated. New Orleans, Mobile, and the Resorts of the Gulf Coast. By W. D. Chipley, Gen. Manager Pensacola R.R. 8vo, pp. 31.

Medical Plants: being Descriptions with Original Figures of the Principal Plants employed in Medicine, and an Account of their Properties and Uses. By Robert Bentley, F.L.S., etc., and Henry Trimen, M.B., F.L.S, etc. Philadelphia: Lindsay and Blakiston. $2 per part.

Parts 14, 15, and 16 of this publication have come to hand, and contain handsome colored plates and descriptions of the following plants:

Part 14.—Stavesacre (*Delphinium Staphisagria*), Tormentil (*Potentilla Tormentilla*), Squirting Cucumber (*Ecballium Elaterium*), Caraway (*Carum Carui*), Scammony (*Convolvulus Scammonia*), Lavender (*Lavandula vera*), Catnep (*Nepeta Cataria*), Horehound (*Marrubium vulgare*).

Part 15.—Coca (*Erythroxylon Coca*), Broom (*Cytisus Scoparius*), Cherry Laurel (*Prunus Laurocerasus*), Blue Gum-Tree (*Eucalyptus globulus*), Ipecacuanha (*Cephaëlis Ipecacuanha*), Rosemary (*Rosmarinus officinalis*), Bay (*Laurus nobilis*).

Part 16.—Pomegranate (*Punica Granatum*), Kassnih (*Ferula galbaniflua*—the source of Galbanum), Yarrow (*Achillea millefolium*), Wild Lettuce (*Lactuca virosa*), Thibetan Rhubarb (*Rheum officinale*)—see New Remedies, vi., p. 98, Virginia Snakeroot (*Aristolochia Serpentaria*), Rice (*Oryza sativa*).

Douze Cents Formules Favorites des Médicins Français et Étrangers. Twelve Hundred Favorite Formulas of French and Foreign Physicians. By Dr. N. Gallois. 2d ed., revised and enlarged. Paris: J. B. Baillière & Sons. 1877. 12mo, pp. 532.

These formulas are reprinted from *L' Union Médicale*, and embrace a great range and variety—as their number would indicate. While some of the pharmaceuticals entering into the prescriptions are unknown in this country, especially in the case of those derived from French sources, and a large proportion of the formulas are of no practical value whatever, there are still some which seem to be worthy of attention. Of the latter sort we will make future mention. Quite a remarkable feature for a French book is the comprehensive index which is supplied.

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Announced.

Binz (C.). The Elements of Therapeutics: a Clinical Guide to the Action of Drugs. Translated from the 5th Ger., by E. I. Sparks, M.B. Churchill.

Fox (Cornelius B.). A Hand-book of Analysis of Water, Air, and Food, for the Medical Officer of Health. Churchill.

Bernays (A. J.). The Student's Guide to Medical Chemistry. Churchill.

Menuschkin (N.). Analytische Chemie f. den Gebrauch im Laboratorium u. das Substudium. Deutsche Augs., v. O. Bach. 8vo, 8*s.* 6*d.*

Vacher (Arthur). A Primer of Chemistry, Including Analysis. 16mo. Lindsay & Blakiston. 50c.

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NEW BOOKS.

Fleischer (Emil). A System of Volumetric Analysis, with Notes and Additions from the 2d Ger. ed., by M. M. P. Muir, F.R.S.G. Illustrated. 12mo, pp. ix., 274. Macmillan. $2.50.

Chisholm (H. W.). Science of Weighing and Measuring. (Nature Ser.) 12mo. Macmillan. $1.50.

Darwin (Charles). Different Forms of Flowers and Plants of the Same Species. 12mo. Scribner, W. & A. $6.00.

Fownes' Manual of Chemistry. Post 8vo, pp. 670. Churchill. 10*s.*

Miller (Wm. Allen). Elements of Chemistry, Theoretical and Practical. Revised by Herbert McLeod. 6th ed., Part I., pp. 724. Longmans. 21*s.*

Richardson (B. W.). Result of Researches on Alcohol and Action of Alcohol on the Mind. Post 8vo. Tweedie. 1*s.* 6*d.*

Squire (P.). Companion to the Latest Edition of the British Pharmacopœia. 11th ed. Edited by P. W. and A. H. Squire. 8vo, pp. 482. Churchill. 10*s.* 6*d.*

Thorpe (T. E.). A Manual of Inorganic Chemistry. Vol. I.: The Non-Metals. New Edition, with copious Index and Examination Questions and Exercises. 12mo, pp. 414. Collins. 3*s.*

Dictionaire Encyclopédique des Sciences Médicales. Directeur: A. Dechambre. 8vo. Paris. [Appears simultaneously in four sections, in volumes costing 6 fr. So far there have appeared: Section I., vols. 1-20; Section II., vols. 1-12; Section III., vols. 1-5; Section IV., vol. 1.]

Rau (A.). Die Grundlagen der modernen Chemie. 8vo. Braunschweig. $9.00.

Grothe (Dr. H.). Die Industrie Amerika's (U. S.), ihre Geschichte, Entwicklung und Lage unter bes. Berücksichtigung der Volkswirthschaft und Handelspolitik, der Erfindungen und Fortschritte des Maschinenwesens, etc., und der Weltausstellung zu Philadelphia. (Profusely illustrated.) 8vo. Berl. $9.20.

Ledebur (Prof. A.). Die Verarbeitung der Metalle auf mechanischen Wege. Lehrbuch d. mechanisch-metallurgischen Technologie. 8vo. Braunschweig. In about 6 parts, à $2.20.

Menuschkin (N.). Analytische Chemie für den Gebrauch im Loboratorium und für das Selbststudium. Übers. v. Dr. O. Bach. 8vo. Leipzig, 1877. pp. 480. $2.60.

Hogg (W. D.). De l'usage thérapeutique de l'acide salicylique, ses composés et accessoirement de la salicine. Delahaye & Cie. Paris. 3fr.

Carry (Dr.). Du role et des indications des bains dans les maladies de la peau. Delahaye & Cie. Paris. 2fr. 50c.

Guide pratique pour servir à l'examen des caractères physiques, organoliptiques et chimiques que doivent présenter les préparations pharmaceutiques officinales inscrites au Codex, ainsi qu'a l'essai des médicaments chimiques. Asselin. Paris.

Onimus (Dr.). Guide pratique d'électrothérapie. G. Masson. Paris. 5fr.

TRADE NOTES.

Nassau, New Providence, as a Winter Resort.

THERE is no climate, as easily accessible from the eastern side of this continent, which presents the advantages to be found at Nassau, the capital of the Bahama Islands. The gulf-stream flows northeastward between the islands and the mainland, and effectually protects them, by its warmth and the clouds of vapor which overhang it, from the cold west and northwest winds. The air is laden with moisture, the changes in temperature are slight, and almost invariably the weather is such as to allow out-of-door exercise during the whole and every day. Winter rains are of infrequent occurrence, the abundant dew which is deposited after nightfall taking their place.

The winters are so mild that there is only one house in the town having a chimney besides the one belonging to the kitchen. The resident physicians are well-educated and reliable men. The citizens are hospitable in an unusual degree. The amusements are not numerous, but the hunting, fishing, and sailing are superb, and the roads are like floors. The water is pure, the town is clean, the hotel is a marvel of neatness, and its table (at least it was when we were there last winter) all that can be desired.

The climate is best adapted for affections of the nervous system; for persons suffering from malarial affections, and from diseases of the respiratory organs attended with a dry and troublesome cough. Catarrhal troubles of the nose and pharynx are very much helped, and dyspeptics do well there. Persons suffering with a cough accompanied with profuse expectoration, should not visit the Bahamas, nor is the humidity of the atmosphere adapted to those who have excessive perspiration.

A line of steamers, direct from New York, stops at Savannah, and shortens the trip by sea to about forty hours (and that over smooth water).

Murray, Ferris & Co., 62 South Street, will supply any information regarding passage, expenses, etc.

Fluid Extract of Fucus Vesiculosus.

IN connection with the article on page 322, relative to the use of bladder-wrack in the treatment of morbid corpulence, and the necessity there referred to, for care in the selection of the variety of wrack from which to prepare the remedy, we ask the attention of our readers to a very handsome fluid extract of the drug, made by Theodore Metcalfe & Co., of Boston, whose preparations of all kinds are very highly esteemed. The usual strength of one grain to the minim is followed, and the dose for an adult is one-half to two teaspoonfuls. The price to physicians, in pint bottles, is $2.50 each; in four-ounce bottles, $8.50 per dozen.

Laxative Elixir of Rhamnus Frangula.

ANOTHER preparation which has become one of the specialties of Theodore Metcalfe & Co., is an elixir of buckthorn bark. In 1875, Mr. C. Umney[*] called attention to the adulteration of the juice of the berries of *Rhamnus catharticus* and the consequent inertness of the syrup and other preparations made from it. At the same time he proposed that the bark of the *R. Frangula* should be substituted for it, since it could be had for purposes of manufacture at all seasons, and would produce a milder and more reliable preparation. The result has been to direct attention to the bark of the buckthorn, and experience has shown it to be a pleasant and gently stimulating aperient, well calculated to take the place of castor-oil as commonly administered. It so happens, however, that this is not the only use to which the buckthorn or black dog-wood is put, since its wood makes the best variety of charcoal for the manufacture of gunpowder. It is unfortunate that just as the demand for the bark for medicinal purposes begins to be appreciable, the market for gunpowder has become extremely brisk. The chances of adulteration of the bark are therefore increased, and it is well to have the guarantee of such manufacturers as the ones referred to, to insure the purity of the remedy.

The price of the elixir is $1.25 per pint, or $10.50 per doz., to physicians. The same house makes a fluid extract.

Slippery-Elm Bark.

PERSONS whose ailments require that they should consume the powdered inner bark of the slippery-elm (*Ulmus fulva*), in the shape of poultices or infusions, have probably but an inadequate idea of the method of its preparation, and the following extract from the letter of a correspondent will be of interest to them as well as to dealers:

"I visited to-day the slippery-elm mill of A. J. Wiggin, St. Johns, Mich., from which are furnished large quantities of that useful product in all the different forms necessary for the use of the manufacturing and retail druggist.

"Bark of best selected quality, very clear and white, is chosen, and before grinding is thoroughly kiln-dried, cut into minute sections, passed through a picking-machine and thoroughly disintegrated, then through an iron mill, and ground to a perfectly soft mass. To produce the powder, this latter stock is treated to a grinding between the best and finest burr stones, and to two boltings—the first retaining most of the mucilaginous element, and the second furnishing a quality sufficiently good for some purposes. The prices at which he will place his goods in New York were so reasonable that I append them:

"The powdered in 1 and 2 oz. pkgs., in 50 lb. cases, the 2 oz. for 15c., and the 1 oz. for 16c. The ground in 4 oz. pkgs., 50 lb. cases, at 10c. Bulk prices: ground, $8.00 per cwt; powdered, first bolting, $12.00 per cwt.; second bolting, $10 per cwt.; of these two grades the first is strictly pure. These prices include boxing, etc."

Trousseau's French Carbonated Meat.

WM. R. WARNER & CO., 1228 Market St., Philadelphia, are the proprietors of Trousseau's Carbonated Meat for use in consumption and other exhausting diseases. It is nicely put up in paste-board boxes, and is, in appearance, a steel-gray or ash-colored powder, of which the dose is a teaspoonful four times a day, gradually increased and taken in some beverage or extract of malt. The boxes retail for $1.00.

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[*] *Pharm. Jour.*, 3d. ser., v., 21.

ANALYSES OF PHARMACEUTICAL CHEMICALS AND PREPARATIONS.

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We are now prepared to send samples for the January prize to such as may desire to compete for it. Answers must be received before the 20th of December, and be accompanied by a sealed envelope containing the name of the writer, and designated by a device or motto, which is also to be placed, instead of the writer's name, upon the report of the analysis.

Persons to whom a prize has been awarded are requested to send to the publishers the title of any book or books they may desire, not exceeding in the aggregate the value of $10.00.

The prize this month will be awarded to F. W. ZIMMER *("Serpent") of Rochester, N. Y.*

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THE sample for the November analysis contained native sulphide of antimony, eighty per cent., and commercial "black lead" (plumbago), twenty per cent.

It is a well-established fact that very little of the "black antimony" now sold is even of fair quality. Many analyses, published during the past few years, show that charcoal, stove coal, plumbago, sand, iron-filings, sulphide of iron, and, in fact, all things *cheap* and *black*, are common adulterants.* Within the past year it was discovered that in at least one Western, and one Eastern city, four grades of "black antimony" were sold, containing from twenty or twenty-five per cent. of plumbago, up to one hundred per cent., the remainder, if any, being sulphide of antimony.

The greater portion was sold to railroads and machinists, as a lubricating material for axles, etc., but many retail druggists availed themselves of the low prices then in vogue, and bought the cheapest grades.

As a natural consequence, the substance did not give satisfaction, even as "horse medicine," and many complaints were made. A moral might easily be drawn at this point in regard to the poor economy in buying anything, especially a drug, merely because it is cheap, and sold at a price below its actual value. It is a good rule to suspect the purity of any drug sold at a price so near the cost of production as not to leave a moderate profit for the seller. In case any drug is suspected to contain impurities, it should, as a matter of course, be tested.

The Pharmacopœia defines "antimonii sulphuretum" as "native tersulphuret of antimony, purified by fusion."

As thus prepared, it is liable to contain more or less earthy matter, together with traces of the sulphides of iron, lead, and arsenic.

The present sample contained considerable ferrous sulphide, and a little silica; the plumbago also contained a little iron.

The U. S. P. tests are good, as far as they go, but they do not exclude small amounts of iron, lead, or arsenic.

A pure black sulphide of antimony would answer the following tests:

1. Entirely soluble in boiling hydrochloric acid, with evolution of hydrosulphuric acid, and formation of $SbCl_3$.

2. This solution poured into water forms a white precipitate ($SbOCl$), known as "Powder of Algaroth." This precipitate when treated with ammonic hydrate, forms "antimonii oxidum" of the Pharmacopœia; thus, $2SbOCl + 2NH_4OH = Sb_2O_3 + H_2O + 2NH_4Cl$.

This antimonious oxide dissolves in warm solution of potassic bitartrate, forming tartar emetic, "Antimonii et potassii tartras."

$Sb_2O_3 + 2KHC_4H_4O_6 = 2KSbO(C_4H_4O_6) + H_2O$.

3. The filtrate, after removal of the $SbOCl$, gives an orange-red precipitate, with hydrosulphuric acid (Sb_2S_3). This precipitate is insoluble in solution of ammonic carbonate—distinction from arsenious sulphide. Also, it is entirely soluble in ammonic sulphide. Sulphides of lead and copper are black, and are insoluble in ammonic sulphide.

4. After removal of the Sb_2S_3, the filtrate gives no blue precipitate with potassic ferricyanide, and no red solution with potassic sulphocyanide—absence of iron, ferrous or ferric.

5. The black sulphide of antimony is dissolved by large excess of hot solution of sodic carbonate, $Sb_2S_3 + 2Na_2Co_3 = Na_3SbS_3 + NaSbO_2 + 2CO_2$.

This solution, on cooling, deposits a slight brown precipitate.

$2Na_3SbS_3 + 2NaSbO_2 = (Sb_2S_3Sb_2O_3) + Na_2O + 3Na_2S$.
Formation of "Antimonii oxysulphuretum."

6. The black sulphide also dissolves in hot solution of potassic hydrate, with formation of antimonite and sulphantimonite ($KSbO_2$ and K_3SbS_3). This solution, when acidified, precipitates $Sb_2S_3KSbO_2 + K_3SbS_3 + 2H_2SO_4 = Sb_2S_3 + 2K_2SO_4 + 2H_2O$.—formation of "Antimonii sulphuretum."

Other special tests for arsenic,* lead, and copper, should be applied.

The use of ammonic sulphide in testing for antimony, as directed by the U. S. P., is objectionable, because it will redissolve any antimonious sulphide it produces, if it is added in excess.

The sample just examined is best treated as follows: Boil with successive portions of hydrochloric acid until it fails to dissolve any more of the substance. The solution may be tested for antimony and impurities. The insoluble residue may now be water-washed and dried, when it will exhibit the physical properties of "black lead," and of sand. This residue fused on platinum foil with potassic nitrate, forms potassic carbonate and potassic silicate. The presence of carbonate and silicate in this fused mass proves the presence of carbon and silica in the insoluble residue.

The prize for the best analysis has been awarded to "Serpent."

The analyses of "Birdie" and "Spero" were excellent; "Amateur" and "S. V." also did quite well.

Any mistakes made by contestants are explained in the article above.

The sample for the December analysis is found among the preparations of the U. S. P., and is supposed to be perfectly pure; state whether, in your opinion, this is the case.

The January sample will be of *organic* origin; it will consist of one or more pharmacopœial substances which can easily be identified by chemical and physical properties. A more definite announcement will be made next month.

A number of answers were received too late for competition.

NOTES, QUERIES AND ANSWERS.

[*Under this heading we shall, to the best of our ability, endeavor to answer such questions addressed to us as come within the scope of this journal, provided they are accompanied by the name and address of the writer. Answers to queries received after the 5th of the month will lie over until the next issue.*]

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Precipitate in Tincture of Iron (J. G. K., M.D., N. Y.).—The white precipitate which you say is formed by mixing tincture of iron with a saturated solution of potassium bromide, consists of potassium chloride, which is but little soluble in an alcoholic liquid. The ferric chloride is at the same time converted into ferric bromide.

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* W. C. Sheffield, *Amer. Jour. Phar.*, Sept. 1876.

* "Davy's test" for arsenic is very delicate. See NEW REMEDIES, vol. v., p. 108. This test is said to detect one grain of arsenic in 476 pounds of sugar.—*Amer. Jour. Phar.*, Oct. 1877, p. 489.

Anatherin-Mundwasser (O. H., Cincinnati, O.).—This is an aromatic collutorium or gargle, composed of tincture of myrrh, guaiac, cinnamon, cloves, and red saunders.

Cautery Fluid (L. V. M., New York).—The best fluid as an excitant for zinc-carbon batteries to be used for cauterizing purposes is the following: Mix 80 fl. oz. of sulphuric acid (common) with 10 pints of water; pour the mixture upon 4 av. lbs. of potassium bichromate, and stir well for 5 minutes; then add 20 pints more of water. When cold, add 50 fl. oz. of sulphuric acid. Competent surgeons claim that if the directions above given be departed from, the effect of the solution is much impaired. When it is desired to increase the intensity of the action, a small quantity of a solution of ammonium nitrate in nitric acid may be added to each cup of the battery.

Removing Iodine Stains (W. R., M.D., Virginia City, Nev.).—Cyanide of potassium is the substance generally used, but its employment is fraught with danger, as it may be absorbed through abrasions of the skin. A much safer way, and equally expeditious, is to soak the stains, whether on the hands or on dresses, with a strong fresh solution of iodine, and after a few minutes to treat them with a concentrated solution of sodium hyposulphite. The iodine converts the silver into iodide, which is afterwards dissolved off by the hyposulphite.

Stokes' Liniment (O. G. H., M.D., Nashville, Tenn.).—The formula adopted by the American Pharmaceutical Association, on the recommendation of the Committee on Unofficinal Formulæ, is as follows:

Oil of turpentine	3 fl. oz.
Acetic acid	½ fl. oz.
Yolk of egg	1.
Rose-water	3 fl. oz.
Oil of lemon	60 min. Mix.

Salicylate of Iron (W. S. Th., M.D., Buffalo, N. Y.).—Such a preparation has been in use in this city for a short time. A formula for its preparation will be given in our next number.

Cologne (A. H., Galena, Ill.).—The formula you inquire about is the following, which is much used in the North of Europe:

Oil of Bergamot	30 parts.
" " Cedrat	5 "
" " Neroli (fresh)	2.5 "
" " Cloves	1 "
" " Rosemary	2 "
" " Lavender	2 "
Alcohol (pure)	1,500 "
Rosewater	q. s.

Mix. Distil until there are obtained 1,500 parts.

Elastic Varnish for Paper, Drawings, etc. (B. F., Jackson, Ala.).—30 to 40 gm. of Damar are dissolved by digesting in 180 gm. of acetone, the clear solution is poured from the sediment, and every four parts of it are mixed with three parts of rather thick collodion. This varnish may be applied directly upon the paper by means of a soft beaver-hair brush in vertical strokes. After the first coat is dry, another one is applied in the opposite direction.

Wernich's Ergotin (R. L., Harrisburg, Pa.).—The formula, which we gave you in our last number, on the authority of No. 69 of the *Pharm. Zeit.*, has been corrected by a correspondent of the latter journal, in No. 73, who states that Wernich's original preparation was directed to be made as follows: Powdered ergot, freed from oil, is completely exhausted with distilled water at 80° C.; the watery solution is evaporated, as *rapidly as possible*, to a syrupy consistence, and then transferred to a dialyser, where it is allowed to dialyse on distilled water, until the latter ceases to absorb anything. The solution remaining on the dialyser is then again evaporated to the consistence of an extract; and this is the substance in question.

Gregory's Powder (W. A. S., Dalton, O.).—This is an old name of the compound powder of rhubarb (Pulvis Rhei compositus), officinal in the U. S. and Brit. Pharmacopœias.

Thymol (J. A. McF., Richmond, Va.).—This substance, which is homologous to phenol, and isomeric with carvol and cuminic alcohol, and is sometimes called thyme-camphor or thymic acid, has the composition $C_{10}H_{14}O$, is found in the ethereal oils of *Thymus vulgaris* L., *Monarda punctata* L., and *Ptychotis Ajowan* DC. It may be obtained by shaking the oil with soda, and decomposing the sodium compound with dilute hydrochloric acid. It has strong antiseptic properties, almost as strong as phenol, and has the advantage of not being caustic, and possessing an agreeable odor.

Orlean (S. W. P., Detroit, Mich.).—Orlean, Orleans, Anotto, Anatta, Arnotto, Attalo, Achioti, etc., are names of the yellowish-red coloring matter prepared from a red waxy substance surrounding the seeds of the American Uruku tree, *Bixa Orellana* L., which is also cultivated in East Indies and in Cayenne. The seeds are crushed and allowed to ferment; the coloring matter is then washed away from the seeds on sieves, and is brought into the market in form of a doughy mass, having an odor of putrid urine, and containing about 70 per cent. of water, and only about 6 per cent. of pure coloring matter. The purer Bixine of commerce is obtained by washing the coloring matter out and precipitating it by alum (probably). It is used for dyeing, and for coloring oils, fats, varnishes, butter, and cheese.

Bitter Cane.—A correspondent of ours desires information on the following:

DEAR SIR—Can you or any of the readers of your journal kindly furnish me with any information respecting the plant called the "bitter cane" (*Caña Agria*), indigenous to South America? Mention of it has lately occurred in *La Andalucia Medica*, and also in the *Revista Medico-Quirúrgico de Buenos Aires*. The juice is said to be much esteemed by the natives of South America as a remedy in diabetes, and M. Gubler, of Paris, has also tried it, I believe, in one or two cases.

W. K. N. (N. Y.).—We are unable to give the composition of the nostrum you inquire about.

Thalleioquin (J. B., New London, Conn.).—This is a green substance which is precipitated by adding to a solution of quinia or its sulphate (or to a solution of quinidia), chlorine water, and afterwards ammonia. It is a resinous body, is insoluble in water and ether, soluble in alcohol and glycerine, fusible, is colored blue by acetic acid, discolored by stannous chloride, and turned pale green by mercuric chloride. Its alcoholic solution diluted with water dyes silk, wool, and cotton (the latter must be previously mordaunted with albumen) of a green color. Its composition is $C_{26}H_{22}N_2O_6$. The production of this substance constitutes the thalleioquin reaction in testing for quinia or quinidia. The name is derived from the Greek *thalleion* (θαλλεῖον), olive branch, and the first part of the word quinia, and means "quinia-green (olive-green)."

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About 300 women are now studying medicine in Russian schools, seventy-eight of them being married.

Diorrexin is the name of a new blasting compound, manufactured at Sistiana near Trieste, and at Brunn near Wiener Neustadt. It consists of: picric acid 1.50, wood charcoal 6.82, beechwood saw-dust 9.98, saltpetre 33.93, sodium nitrate 21.07, sulphur 12.20, water 9 parts.

Administration of Salicylic Acid.—M. Gueneau de Mussy's method of administering salicylic acid is to dissolve it in a syrup of gum by the aid of ten times its weight of brandy, and adding to it a little lemon-juice. [A cock-tail with salicylic acid instead of Stoughton bitters?]

The Michigan Pharmaceutical Association met at Detroit on the 17th of October.

PRESCRIPTIONS AND FORMULÆ.

Hydrobromic Acid in Prescriptions.—In the *Detroit Medical Journal* for October, Dewitt C. Wade, M.D., of Holly, Mich., who was one of the first to call attention to the therapeutical value of hydrobromic acid, gives the following formulæ for its employment:

His original formula, from which the first preparation was made, called by him "dilute hydrobromic acid," is as follows:

I. Bromide of potassium............ 120 grains.
Crystallized tartaric acid.......... 153 grains.
Water.............. .... 1 fluid oz.

"Dissolve the salt and then the acid in the water, and place in cold water for several hours, or until precipitation ceases, and decant. The results of the reaction are the formation of bitartrate of potassium (cream of tartar), which is nearly insoluble, and sufficiently pure hydrobromic acid diluted with water, each fluid drachm of which contains ten grains of bromine. By preserving this proportion, any quantity can just as readily be made. For forty fluid ounces the following formula is exact enough for practical purposes:

II. Bromide of 'potassium, 10 Troy or 11 avoir. oz.
Cryst. tartartic acid.. 12¾ Troy or 14 avoir. oz.
Water.............. 40 fluid ounces.
Proceed as before.

"The affinity of hydrobromic acid for bases is between that of hydrochloric and hydriodic acids. I have prescribed it most frequently in half-drachm doses well diluted.

III. Dilute hydrobromic acid,
Syrup.................. of each one fluid ounce.
Mix and write—Teaspoonful in water.

"This is not unpleasant to the taste, and may be given to obtain the constitutional effects of bromine as usually administered in combination with a base. It also acts like other mineral acids in being tonic, refrigerant, solvent, alterative, etc., and is very useful in the 'bilious' conditions, including fevers, where the morbid symptoms recede with the coating on the tongue. I use little else in remittent fever.

IV. Sulphate of quinia........ 15 to 80 grains.
Dilute hydrobromic acid,
Syrup.................. of each one fluid oz.
Mix and write—Teaspoonful in water.

"This is extremely bitter, and in this respect cannot be improved by other additions. Like other acidulous preparations it is incompatible with liquorice. Bromine has the power of modifying, in a marked degree, the cerebral effects of quinia; hence the value of this combination, aside from the alterative and other properties of the acid. In all cases of intermittent fever, I continue an antiperiodic from ten to thirteen days after the paroxysm ceases, and for permanent and other satisfactory results, this combination has proved to be far superior in my hands to any other not containing the acid.

V. Sulphate of cinchonia... 15 to 45 grains.
Dilute hydrobromic acid,
Syrup................ of each one fluid ounce.
Mix and write—Teaspoonful in water.

"I can discover no difference in the effects of cinchonia and quinia, except that the latter is to be preferred as a stimulant. I prescribe cinchonia because of its cheapness.

VI. Red iodide of mercury...... one grain.
Dilute hydrobromic acid.... one fluid oz.
Fluid extract of orange peel,
Syrup.................... of each four fl. drms.
Mix and write—Teaspoonful in water.

"The iodide of mercury is decomposed, the bromide being formed with the elimination of the iodine in the form of hydriodic acid. Mercury may be given in this manner for a long time without producing ptyalism, the salt being rapidly excreted.

VII. Fluid extract of ergot,
Syrup................ of each four fluid drms.
Dilute hydrobromic acid. one fluid ounce.
Mix and write—Teaspoonful in water.

"I do not believe that any other combination equals this for efficiency in cases of cerebral hyperæmia. It is not only indicated where venesection would appear beneficial, but it may be administered by enema in a case of intercranial hemorrhage, with the likelihood of arresting the transfusion, by capillary constriction, when an additional depletion of the arterioles, by artificial abstraction of blood, would still further endanger life without influencing the hemorrhage, and is consequently positively contraindicated. [Ergot does not affect the capillaries, but causes contraction of the muscular coat in the small arteries; there are no muscular fibres in the capillaries.]

"Ergot and hydrobromic acid will be found to be promptly useful in the vertigo of plethora, with confusion of ideas, or where a determination of blood to the brain is prone to occur from other causes.

VIII. Fluid extract of stramonium. 160 drops.
Dilute hydrobromic acid,
Syrup..................... of each one fl. oz.
Mix and write—One-half teaspoonful in water, the dose to be increased until the specific effects of the stramonium are marked, and there to be maintained.

"I offer this combination as a prescription for epilepsy. I will simply say of it, that its effects in this disease are remarkable, and I think I have reason to consider it superior to any other plan of medication.

IX. Tartar emetic.................. 2 grains.
Denarcotized tincture of opium... 2 fluid drms.
Dilute hydrobromic acid......... 1 fluid ounce.
Syrup, to make................ 2 fluid ounces.
Mix and write—Teaspoonful in water.

"For acute or chronic bronchitis.

X. Syrup of bromide of iron...... 4 fl. drachms.
Bromide of quinia.............. 16 grains.
Dilute hydrobromic acid....... 1 fl. ounce.
Syrup...................... 4 fl. drachms.
Mix and write—Teaspoonful in water.

"The wide applicability of this tonic is readily suggested by its composition.

XI. Sub-carbonate of bismuth...... 80 grains.
Dilute hydrobromic acid....... 1 fl. ounce.
Dissolve and add
Saccharated pepsine........... 80 grains.
Syrup, to make............... 2 fl. ounces.
Mix, filter and write—Teaspoonful in water.

"This is preferable to ammoniated citrate of bismuth with pepsine, because it is not only permanent in the bottle, but it is not precipitated in the stomach, as is the citrate. Its indications are evident to the professional reader. To it may be added pancreatine, with or without the pepsine.

. . . .

"Elixirs instead of syrups may be substituted, and additions of flavors may be made to render the medicine more palatable. The doses given are for adults, and the frequency of their repetition in each case is to be determined in accordance with the circumstances."

Fluorescent Mixture.—A correspondent sends us the following prescription, which he finds to be so strongly fluorescent, that it resembles a mixture containing quinia:

Potassii cyanidi........................ gr. ij.
Chloroformi.......................... gtt. l.
Syr. Pruni Virgin.,
Glycerinæ....... . ... āā fl. ℥ ij.
Mix.

Rat-Poison (*Hager*).

Castor oil seeds, freed from the shell..	100 parts.
Calabar beans, " " ..	20 "

Bruise them in a mortar, until they form a smooth paste; then add:

Squill, powdered,	
Wheat-flour .... āā	50 parts.
Fresh lard	60 "

or q. s. to make a mass of proper consistence.

Quinia in Small Doses in Malarial Diseases.—A correspondent of the *American Practitioner* (October) writes that Dr. Charles R. Greenleaf, U. S. A., gives the following formula as coming from an army surgeon, whose name and present residence were forgotten. The dose mentioned, it is claimed, will secure the full antiperiodic effects of the remedy, and prevent a recurrence of an attack of intermittent fever.

℞. Quiniæ sulphatis	gr. ij.
Acid. citrici	gr. iij.

Rub fine together and dissolve in

Aquæ	℥ ss.
Potassæ iodidi	gr. iij.
Aquæ	℥ ss.

Mix the two solutions together, and administer the whole quantity at a dose.

Solutions of Quinia for Hypodermic Use.—In his recent work on fevers [see notice in December] Professor Loomis gives the following formulæ for solutions of quinia for hypodermic use in remittent fevers:

"The solution of quinia, commonly employed by the English surgeons for this purpose, is made by adding 150 grs. of quinia and 50 drops of dilute hydrochloric acid to 4 oz. of water, and then evaporating the solution to 2 oz. Of this 30 drops may be administered at each injection. Some add carbolic acid to a solution of quinia in dilute sulphuric acid. The carbolic acid is added to prevent abscess at the point where the injection is introduced.

"The formula for this solution is as follows:

℞. Quiniæ disulphatis	grs. l.
Acidi sulphurici	♏ v.
Acid. carbolici	♏ ij.
Aquæ distillat	ʒ j.

M.

"Thirty minims is the quantity usually administered at each hypodermic injection; it represents between 3 and 4 grains of quinia. I have recently used the following:

℞. Quiniæ sulph	ʒ j.
Acidi hydrobromici	ʒ ij.
Aquæ distillat	ʒ vj.

M.

"Thirty minims contain 4 grains of quinia."

Treatment of Dysmenorrhœa.—In dysmenorrhœa of a rheumatic character, when the pain is severe and the flow scanty, N. S. Davis, of Chicago, uses the following:

℞. Tinct. cimicifugæ	℥ iij.
Tinct. stramonii,	
Vini colchici radicis .... āā	℥ ss.

M.

Take one drachm at each meal-time in water. If by long continuance or unusual susceptibility, the cimicifuga causes dull headache, as is sometimes the case, either the dose may be lessened or fluid extract of cypripedium may be substituted. The colchicum may be lessened in proportion to the other ingredients, if the bowels are disturbed.

When the pain and soreness extend to the ovarian region, the following has been serviceable:

℞. Ammoniæ hydrochlor	℥ iij.
Tinct. stramonii	℥ ss.
Tinct. cimicifugæ rac	℥ iss.
Syr. glycyrrhizæ	℥ ij.

M.

Take one teaspoonful at each meal-time in a tablespoonful of water.

In a recent case characterized by extremely painful menstruation accompanied by severe headache, continuing in less degree through the interval between periods, some constipation and slight feverishness, Dr. Davis ordered:

℞. Acid. salicylici	ʒ iij.
Sodæ bicarb	ʒ ij.
Tinct. stramonii,	
Vin. colchici rad .... āā	ʒ iv.
Glycerinæ (puræ)	℥ i.
Aquæ	℥ iij.

M.

Of this the patient took one teaspoonful before each meal-time and at bed-time in a little water. Three weeks after commencing the use of the remedy menstruation took place without pain, for the first time in several years. Bathing and other hygienic measures were also employed in this case.

NEW PATENTS.

[*We will furnish gratis, to subscribers, any information relating to new patents which can be obtained from the Official Gazette of the Patent Office; and for 50c. will give copies of the drawings of such as are illustrated. Electrotypes of the illustrations contained in* New Remedies *will be furnished for 50c. per square inch.*

◆◆◆

TRADE-MARKS REGISTERED DURING SEPTEMBER.

Medicinal Compounds.

5,115. Himrod Manufacturing Company, New York, N. Y. The fac-simile signature of "Peter Himrod," used in conjunction with the words "Himrod's Cure."

5,120. George D. Cooney, Bayonne, N. J. The word-symbol "Hygeia."

5,135. Merriam & Frost, Springfield, Mass. The symbol representing the head, neck, and shoulders of a female, engraved upon a black background.

5,141. Perley Jeffers, Chicago, Ill. "My own portrait and fac-simile of signature."

5,144. Andreas Saxlehner, Pesth, Austria. The word-symbol "Hunyadi János."

5,148. Warnick & Reid, Amsterdam, N. Y. The word-symbol "The Little Old Dutch Doctor's."

5,162. Ch. Berteaux & Radou, New York, N. Y., and Paris, France. The word-symbol "Carmelite Melissa."

5,163. William W. Brownfield, St. Louis, Mo. The word-symbol "Breakers."

5,165. Jeremiah Curtis & Sons, New York, N. Y. The title or designation "Mrs. Winslow."

5,175. William A. Reddick, Niles, Mich. The coat of arms of the State of Michigan with a hog in the shield. [Hog-cholera medicine.]

Cosmetics and Soap.

5,110. Azariah Connelly, New York, N. Y. The fanciful words "Connelly's Salvation for the Hair."

5,125. Lincoln & Holbrook, Boston, Mass. The word-symbol "Relief."

5,136. Francis M. Plims, Dubuque, Iowa. The fanciful words "Wash and be Clean."

5,156. Procter & Gamble, Cincinnati, Ohio. The diagonal red bar or ribbon, the same being used in connection with the words "Mottled German."

5,157. The same. The diagonal green bar or ribbon used in connection with the words "Oleine Oxide."

Paints.

5,184. Standard Oil-Paint Company, Cleveland, Ohio. The word-symbol "Shaker."

Carbonated Beverages.

5,171. The firm of John Matthews, New York, N. Y. A group of figures representing a bear, a soda-fountain, and a boy, arranged as shown.

LABELS GRANTED DURING SEPTEMBER.

1,172. "Witch Hazel Liniment." Benjamin W. Dyer, New York, N. Y.

1,173. "Iron Condition Powders." Benjamin W. Dyer, New York, N. Y.

1,178. "Niles Cathartic Pills." Edward C. Ensign, Waymart, Pa.

1,187. "Dr. Blank's Black Medicines," etc. Oscar Blank, St. Louis, Mo.

1,190. "Bassett's Combination Burgundy Pitch Plaster." D. H. Bassett, Pittsfield, Mass.

PATENTS GRANTED DURING SEPTEMBER.

Sept. 4th.

Beeswax, process of bleaching, H. T. Yaran	194,799
Bottle stopper-fastener, F. J. Seybold	194,931
Bottles, etc., stopper for, D. H. Murphy	194,924
Can, oil, W. Y. Horne	194,821
Condenser for fractional distillation, F. M. Young.	194,856
Dental engine, hand piece, E. T. Starr	194,850
Funnel, measuring, J. N. Berg	194,887
Liquid measures, cover for, C. C. Redmond	194,784
Nursing bottle, I. Bullard	194,859
Oil tank, T. Shaw	194,847
Paints, striping tool for, L. Homann	194,912
Splints, process of manufacturing felted surgeons', D. Ahl	194,800

Sept. 11th.

Bottle-closing device, W. H. Hicks	195,127
" " "	195,128
Carbonate of soda, manufacture of granulated crystalline, J. Mactear	195,142
Compound, detergent, G. P. Cole	194,990
Dental mallet, pneumatic, S. W. Dennis	195,102
Eye-shade, self-adjusting, T. A. Platt	195,045
Eye-glass frame, Wilson & Meigs	195,193
Hog-cholera medicine, G. Preisendanz	195,165
Label-holder, W. H. Somers	195,178
Optometer, Johnson & Conrath	195,135
Saccharine juices, clarifying, Walker & Patterson.	195,190
Triturating machine, M. Golding	195,120

Sept. 18th.

Bath-tub, insulated, W. J. Patton	195,388
Charm, perfumed, C. A. Atkinson	195,324
Cooling or disinfecting the air of rooms, B. W. James	195,374
Evaporating pan, H. W. Hiscock	195,366
Exercising machine, L. L. Atwater	195,247
Fat, purifying raw animal, I. Mayer	195,297
Filter, liquid, C. F. Vent	195,423
Spirits, apparatus for rectifying, J. Kast	195,376

Sept. 25th.

Bath apparatus, vapor, J. V. Hirley	195.448
Bath, shower, J. R. R. Morford	195,523
Bed-pan, C. S. Merriman	195,521
Bottle-stopper, C. S. Barnard	195,473
Bottle-stopper, F. Doll	195,587
Distilling petroleum, apparatus for, H. C. Wood.	195,652
Evaporating pan, C. McCauley	195,517
Eye-glass support, F. H. Moore	195,629
Gum, preparation of chewing, R. Cotter	195,579
Medicinal compound, M. C. Peden	195,531
Painting machine, J. S. Mills	195,628
Tin foil, manufacture of	195,490
Truss, hernia, L. T. J. Lubin (reissue)	7,896

ITEMS.

College of Pharmacy of the City of New York.—The class attending the present session is the largest the college ever had. The advantages offered to the students, and the spirit of revival which permeates the pharmaceutical world, have both been instrumental in bringing about this result. It is confidently expected that the graduating class of this session will be equal, if not superior, in general excellence to any previous one.

It will be remembered that the college, some time ago, took the necessary steps to procure suitable balances and standard metric and troy weights for the purpose of enabling the pharmacists of New York and vicinity to have their weights verified. The Board of Pharmacy of the City and County of New York will in a short time issue a circular, calling upon the pharmacists to avail themselves of this opportunity, and thereby to prevent the possibility of another attempt, such as was made during the last session of the Legislature, to secure the enactment of a special law to regulate druggists' weights and measures.

Professor Geo. A. Smyth, of Andover, a pupil of Bunsen, has been appointed to the chair of Chemistry, Mineralogy, and Metallurgy in the University of Vermont.

M. Bavay, Professor of Pharmacy at the French Naval Academy, has been appointed Chevalier of the Legion of Honor.

M. Asselin, of Paris, the well-known publisher of medical works, is recently deceased.

Dr. Alfred S. Taylor, who has for forty-six years occupied the chair of Lecturer on Medical Jurisprudence and Toxicology in Guy's Hospital, has recently resigned his office. From 1832 to 1870—thirty-eight years—he was also Lecturer on Chemistry.

A National Meeting (sixth) of the manufacturers of mineral waters was held in London on the 23d of October. During two days an exhibition was held of soda-water machinery, and was followed by a dinner.

Prof. George Hadley, of Buffalo, well known as a chemist, died on the 16th of October.

He was the son of Dr. James Hadley, who for a number of years was the Professor of Chemistry in the former "Western College of Physicians and Surgeons" (Fairfield, N. Y.), and subsequently the first Professor of Chemistry in the Buffalo Medical College. George had two brothers, who, like his father and himself, were distinguished for their scholarly attainments; one (now deceased) having been a teacher of languages in Yale College.

Dr. Hadley graduated in medicine at the Fairfield School in 1840, and succeeded his father in the Buffalo Medical College as Professor of Chemistry and Pharmacy. Throughout his professional career he was noted as a modest and retiring, but profound student. He was very clear as a lecturer, and remarkably successful in his illustrative experiments. He acquired a wide reputation as an analytical chemist, and has written a number of papers, most of which have appeared in the *Buffalo Medical Journal*.

He leaves behind him a wife, several children, and a multitude of warm friends.

Dr. Oppenheim, Professor of Chemistry in the University of Westphalia, recently committed suicide with prussic acid at St. Leonard's, where his wife had but just died from consumption.

A Toulouse pharmacien was recently sentenced to one month's imprisonment, and his wife to three days' imprisonment, for having dispensed a draught into which arsenious acid had been put instead of phosphate of lime, a mistake which proved fatal.

NEW REMEDIES.

AN ILLUSTRATED MONTHLY TRADE JOURNAL OF
MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

VOL. VI., No. 12, WHOLE No. 42.

FRED'K A. CASTLE, M.D., - - EDITOR.
CHARLES RICE, - - ASSOCIATE EDITOR.

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¼ Column	8 00	20 00	30 00	50 00
⅛ "	5 00	12 00	20 00	30 00
1/16 "	3 60	8 00	12 00	20 00

No advertisement taken for less than 1/16 column.

EDITORIAL.

BE careful, in detaching the advertisement pages from this number, not to separate the title-page and fly-leaf for Vol. VI., which will be found among them.

THOSE of our recent subscribers (and we have the pleasure of acknowledging the acquisition of very many) who have not had the fortune to become familiar with the contents of the earlier portion of the volume, are invited to pay special attention to the index in the closing pages of this number.

No journal published in this country can present so complete a review of the current literature on the subjects embraced. To accomplish this we have been content to leave to our contemporaries all those interesting items relating to physiology, agriculture, astronomy, social science, mechanics, etc., which, however, valuable in themselves, can as well be found in the daily papers and popular magazines, and have confined ourselves, as strictly as possible, to our legitimate field. Compared with the value of the fresh and practical information thus furnished the price of the journal to each subscriber becomes of the most trifling importance—indeed, it fails to cover the actual cost of publication.

The large number of woodcuts of which we have made use, have not only added greatly to the appearance of the journal, but have also enabled us to publish a large amount of practical and interesting matter, which without them would have been unintelligible.

The increasing interest shown by students and others in the competitive analyses of the pharmaceutical drugs and chemicals furnished by us, leads us to continue this feature of our journal. We hope that many who do not compete for the valuable prize offered, may find the information given in this section, of service, in enabling them to detect fraudulent and accidental adulterations of the goods which the nature of their business requires them to keep, and for the purity of which they are morally, if not legally responsible.

Our prices-current have been corrected regularly by a gentleman possessing extraordinary facilities for becoming familiar with the market, and who is entirely independent of any retail or jobbing-house. Those whose interests require a close knowledge of fluctuations in prices, will find the signs ♂ and ♀ a ready means for distinguishing the articles that have changed in value since the previous quotation.

In addition to the usual expenses, we have during the past year added, at considerable cost, a number of full-page illustrations in wood-cutting and lithography, both plain and colored, which are of the very best grade of workmanship obtainable. Indeed, in every respect, short of actually giving away a valuable publication, neither pains nor expense have been spared to make it desirable for every physician and pharmacist to become a subscriber and reader of NEW REMEDIES. As we have before intimated, the result has been an increase in circulation, and expressions of appreciation of the most flattering character.

We do not feel called upon to make specific promises in regard to our future course, but our subscribers may be assured that all that can reasonably be expected, *and more*, will be done to *keep the journal in advance of all others of its class*. How well we have fulfilled our promises in regard to the present year, we think there can be no question.

A few words here in relation to our advertisements. It can readily be understood that it is only through the receipts from this department that we are enabled to present to our readers matter of such scientific and practical value. A reasonable discrimination, however, has been exercised by the publishers, in regard to the character of the matter admitted, and we are confident that our readers will find in the pages devoted to them the notices of the leading and most responsible houses in the country in their respective branches. In order to render the advertisements of greater and more permanent value, we have recently added to each number an index of the articles advertised, and further changes which promise improvement are under consideration.

We have inquiries, about this time in the year, regarding the facilities for binding New Remedies.

The publishers adopted last year a style of cover shown in the adjoining illustration, which is both handsome, serviceable, and reasonable in price. It is of muslin, with gold lettering and indented ornamentation. It is all ready to be used by the binder, and will be furnished postage paid for 50 cents.

The space required in this number for the index of Vol. VI. has rendered it necessary to abbreviate somewhat the other matter; our usual Bibliographic Notices and list of Recent Trade-Marks, Labels and Patents are, for the same reason, omitted altogether, and an extra leaf has been added to the number.

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

The Cardamom Plant.

One of the most valuable members of the ginger family (Zingiberaceæ) is *Elettaria Cardamomum* Maton (*Alpinia Cardamomum* Roxb.), a flag-like perennial plant, six to twelve feet high, with large lanceolate leaves on long sheathing stalks, and flowers in lax flexuose horizontal scapes, six to eighteen inches in length, which are thrown out to the number of three or four, close to the ground (see Fig. 3). The fruit is ovoid, three-sided, plump, and smooth, with a fleshy green pericarp.

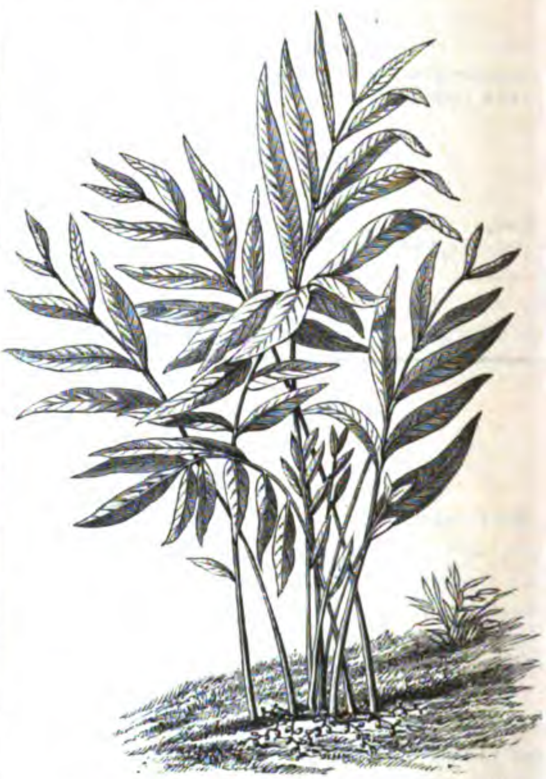

Fig. 1.—Elettaria Cardamomum.

The cardamom plant grows abundantly, both wild and under cultivation, in the moist, shady mountain forests of North Canara, Coorg, and Wynaad on the Malabar coast, at an elevation of 2,500 to 5,000 feet above the sea. It is truly wild in Canara and in the Anamalai, Cochin, and Travancore forests. The cardamom region has a mean temperature of 22° C. (72° F.), and a mean rainfall of 121 inches.

A well-marked variety, differing chiefly in the elongated form and large size of its fruits, is found wild in the forests of the central and southern provinces of Ceylon. It was formerly regarded as a distinct species, under the name of *Elettaria major*, but careful observation of growing specimens has shown that it possesses no characters to warrant it being considered more than a variety of the typical plant, and it is therefore now called *Elettaria Cardamomum*, var. *β*. It is only known to occur in Ceylon, where the ordinary cardamom of Malabar is not found except as a cultivated plant.

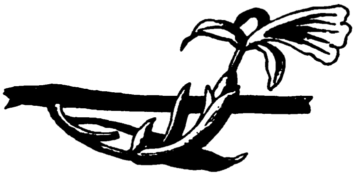
FIG. 2.—The Cardamom Flower.

The fruit of the Malabar cardamom, as found in commerce, is an ovoid or oblong, three-sided, three-valved capsule, containing numerous seeds, arranged in three cells. It is rounded at the base and often retains a small stalk; towards the apex it is more or less contracted and terminates in a short beak. The longitudinally-striated, inodorous, tasteless pericarp is of a pale grayish-yellow, or buff, or brown, when fully ripe; of a thin papery consistence, splitting lengthwise into three valves. From the middle of the inner side of each valve a thin partition projects towards the axis, thereby producing three cells, each of which encloses five to seven dark brown, aromatic seeds, arranged in two rows, and attached in the central angle.

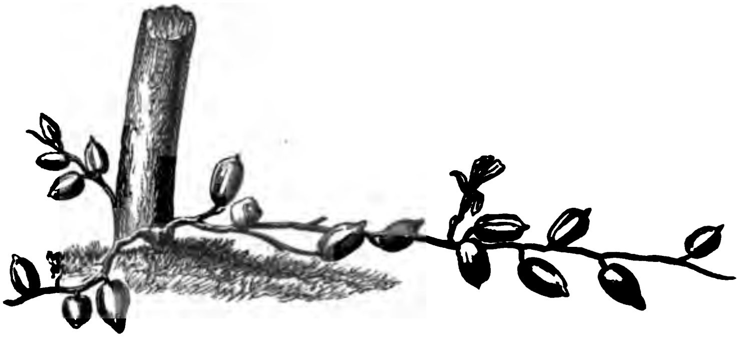
FIG. 3.—Stems of Cardamom fruit.

The seeds, which are about two lines long, are irregularly angular, transversely rugose, and have a depressed hilum and a deeply-channelled raphe. Each seed is enclosed in a thin, colorless aril.

Cardamoms vary in size, color, and flavor. Those which are shortly ovoid or nearly globular, and $\frac{4}{10}$ ot $\frac{4}{10}$ of an inch in length, are termed in trade language *shorts*, while those of a more elongated form, pointed at each end, and $\frac{7}{10}$ to $\frac{8}{10}$ of an inch long, are called *short-longs*. They are further distinguished by the names of the localities, as *Malabar*, *Madras*, and *Aleppy*. The *Malabar* cardamoms, which are the most esteemed, are of full color, and occur of both forms, namely, *shorts* and *short-longs*. They are brought to Europe via Bombay. The *Madras* are chiefly of an elongated form (*short-longs*), and of a more pallid hue. They are shipped at Madras and Pondicherry. Those termed *Aleppy* are generally *shorts*, plump, beaked, and of a peculiar greenish tint. They are imported from Calicut, and sometimes from Aleppy.

Cardamoms are esteemed in proportion to their plumpness and heaviness, and the sound and mature condition of the seeds which they contain. Good samples afford about three-fourths of their weight of seeds.*

The accompanying figure of the cardamom plant is taken from the work of a practical planter in Mysore, Mr. Elliot,† who gives the following account of its cultivation:

"Some time in February or March the felling party—one-half of them provided with axes, and the rest with large hack-knives for clearing the underwood—proceed to the forest, with the necessary supplies of food, and commence operations by building, near to some stream, a temporary hut to shelter them at night. The next morning the head man of the party, who is necessarily well acquainted with the forest, and who has previously chosen the sites for the projected gardens, points out to the coolies the trees that are to be felled. Half of the party then commence to clear the underwood, while the remainder set to work with their axes and fell the large forest trees. The Coorgs have an idea that it is of great importance that the ground should be well shaken by the fall of some heavy tree, and if from any cause a tree does not crash down with sufficient force they fell another across it. Each plot generally consists of about the tenth part of an acre, and care is taken to leave about twenty to thirty yards of jungle between each garden, as well as not to make too many gardens in one year, lest there should be a too great and sudden diminution of the moisture which is so much required by the cardamom plants. From fifty to one hundred gardens are made annually, until the whole jungle is under cultivation. If presented in a plan, a cardamom jungle fully cultivated would be not unlike a checkered board.

"In May, during the early rains of the south-west monsoon, the young plants shoot up all over the cleared ground, but especially near to the roots and stem of the fallen trees. By the October following they will have grown three or four inches, and by ensuing February will have attained a height of about one foot, with from eight to ten leaves on each plant. The seeds ripen in October, and in the fourth year, or about three years and a half from the springing of the plant, a small crop, called by the Coorgs "God's fruit," will be gathered. At this time each rhizome will have thrown up about eight stems. After the plants have grown to the height of two feet the gardens must be annually weeded. When trees have reached the height of about four feet, or say in the third year, a little culling will be required, for each plant must have six feet of clear ground left around it. In removing superfluous plants, care must be exercised in preserving the strongest and healthiest looking specimens. In the fifth year the plants will give a good crop, and will probably continue to do so for the following seven years, when they will begin to present a sickly and exhausted appearance. It will then be necessary to select some large trees from the surrounding jungle, and fell them right across the sickly plots. This is generally done during the months of February and March, when the lands were originally prepared for cardamoms, but may also be done with great advantage some months earlier. Young plants will then spring up as before, and many of the old plants will have their stems and racemes killed by the fall, but from their rhizomes fresh stems will shoot, and the plants will bear with increased vigor for the next eight years, when the same process of renovation will have to be gone through again. The year in which the forest trees are thus felled the cardamom plots naturally give but little or nothing, and during the ensuing year but a light crop will be gathered. But this very much depends upon the quality of the soil, and on this also depends the early or late coming into bearing of the original garden. A cardamom jungle, if thus carefully worked, never becomes exhausted, and the cultivation may be continued on the same land for an indefinite period. One rhizome will often have over twenty stems, and, as these die off (and they seldom last longer than seven or eight years), fresh ones spring up to supply their place.

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* This account is taken from Flückiger and Hanbury's *Pharmacographia*, p. 582 sq.

† *Experiences of a Planter in the Jungles of Mysore*, Lond., 1871.

"The fruit is occasionally borne on the upper part of the stem, but this is extremely rare, and I may mention that in Munzerabad I have never seen or heard of an instance of this departure from the ordinary habit of the plant. When from the stem four racemes are thrown out it is called by the natives the true or full crop; if three only, three-quarter crop; if two, half crop; and if one only, quarter crop. One raceme will have from eight to fourteen branches, and each branch from three to six pedicels.

"When the plant is grown under the most favorable conditions these branches are grown close together; when, however, the conditions are unfavorable, the racemes are long and weak, and the branches far apart."

Removal of the Odor of Petroleum.

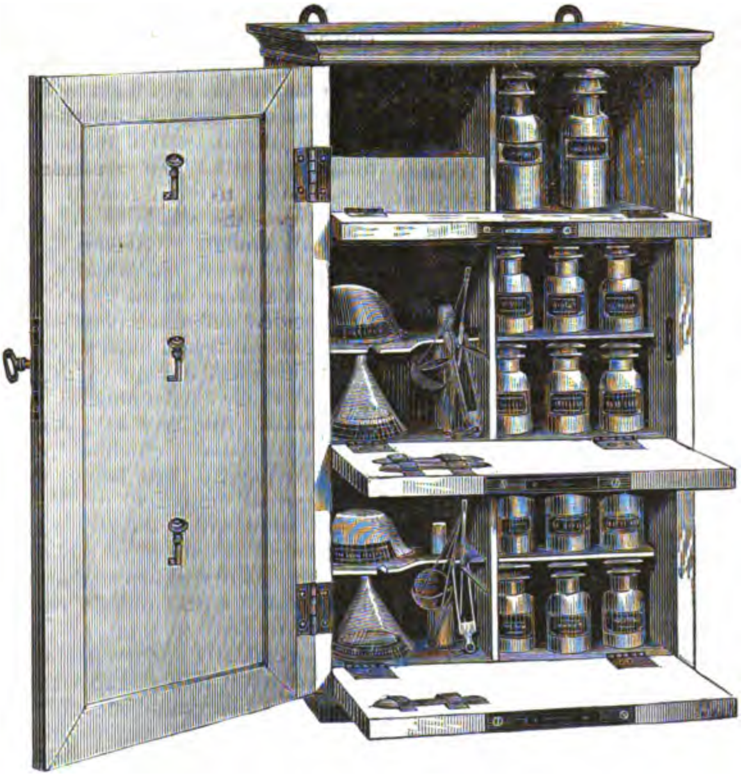
Mr. E. Masson removes the disagreeable odor of petroleum in the following manner: 100 kilos of petroleum are placed into a suitable vessel, and by means of a long-necked funnel 60 grammes each of concentrated sulphuric and nitric acid are poured into it; finally, 500 grammes of alcohol are carefully poured on top of the oil. The latter gradually sinks to the bottom. As soon as it comes in contact with the acids, it develops heat and causes slight effervescence from boiling. In consequence thereof certain ethereal compounds are produced, which impart some of their own agreeable odor to the petroleum. The latter assumes a yellowish color, and after having stood in contact with the acids and alcohol for about one hour, it is gently agitated with water, and after about ten hours decanted. The lower layer, which is a mixture of acids, water, and alcohol, may be utilized, according to Masson, for deodorizing the heavier petroleum oils, by agitating them for twenty minutes with the mixture, decanting after twelve hours, and then washing with milk of lime, to remove all traces of acid.—*Pharm. Centralh.*, 1877, 293, fr. *Rép. d. Ph.*

Fallacy of Trommer's Test.

In the *Medical Times* of Oct. 27th, George Hay, M.D., undertakes to show that the indications for sugar may not be obtained with Trommer's test in the examination of urine, while, at the same time sugar is actually present. The following is the method recommended by him as calculated to avoid this error: "To a neutral solution of sulphate of copper free from iron and other impurities add a solution of neutral tartrate of sodium, and stir the mixture in the cold. In a short time a nearly white or slightly bluish precipitate of tartrate of copper will fall. Decant from this the supernatant fluid, and wash the precipitate twice with cold water by decantation. Cover the precipitate with a moderately strong solution of caustic soda, and stir for a few minutes, when it will be found that the tartrate of copper will dissolve, forming a liquid of a deep blue color. Filter this solution into a glass-stoppered bottle, and preserve for use in a cool place away from the light.

That this is an efficient testing liquor appears from the fact that if, to a few fluidrachms of pure water, we add a minute quantity of grape sugar, and pour a small quantity of this feebly saccharine solution into a test-tube, and, after rendering it slightly alkaline by means of a few drops of a clear solution of caustic soda, we then add of the testing liquor sufficient to produce a distinct and pretty strong blue color, as soon as this mixture is brought to the boiling-point a beautiful red or orange-red precipitate of suboxide of copper will be obtained, and that without delay." When, however, urine is substituted for an aqueous solution of sugar, there will frequently be present a substance or substances, soluble in alcohol, which have the power of retarding the precipitate of the suboxide. To avoid this, the author gives the following directions:

Prepare a solution of tartrate of copper, as above described, and also a solution of caustic soda. Observe that both these solutions are perfectly free from sedimentary matter. Evaporate the urine to dryness, extract with boiling absolute alcohol, and filter while hot; evaporate again, dissolve the residue in water, and filter once more. The filtrate, having been rendered alkaline by a few drops of the soda solution, has added to it a few drops of the above mentioned test-liquid and is then boiled; if no precipitate is obtained at once, place the test-tube in the water-bath, maintained at 212° F., and *wait* half an hour. If by the end of this time a precipitate of suboxide of copper is obtained, sugar is certainly present; if no precipitate of the sort is obtained when the half-hour has expired, then sugar is certainly absent.



Holbe's Poison-Cupboard.

An Improved Poison-Cupboard.

Mr. Holbe, an apothecary of Berlin, has constructed a new poison cupboard, which was primarily designed to comply with all the requirements of the German drug and poison laws, but which deserves to be adopted anywhere, even without government coercion. The accompanying figure illustrates the interior. Each set of poisons is separate by itself. The outer door being unlocked, it still requires a key to get at the particular poison wanted, thereby intensifying the attention of the person opening it. Separate scales, spatulas, and mixing vessels are kept in each compartment. It is kept for sale, ready made, by Warmbrunn, Quilitz & Co., of Berlin.—*Arch. de Pharm.*, Oct., 1877.

New Method of Milk Analysis.

H. Ritthausen proposes to add to milk, previously diluted with water, solution of cupric sulphate and a quantity of caustic soda or potassa, just sufficient to react with the copper salt. The liquid must not be rendered alkaline. In this way all the albuminoids are precipitated, and the filtrate may be used for the determination of the milk-sugar. The cupric precipitate contains, besides the albuminoids, the whole of the fat, which may be extracted with ether, and separately determined. The residue, deprived of fat and dried, is weighed, and then ignited to destroy the protein-bodies. The weight of the latter results from the difference. In order to determine the salts and the water, a separate portion of milk is mixed with pure, recently ignited quartz-sand and dried to a constant weight. The loss of weight represents the water. Finally, by subtracting the values found from the original weight of milk, the residue represents the salts.—*Pharm. Centralh.*, 1877, 347, fr. *Chem. Centralbl.*

Sulphate of Cinchonidia as an Antiperiodic.

Dr. H. L. Warren, of Illinois, writing to the *Chicago Medical Journal and Examiner*, says: "I have recently noticed two or three articles with reference to substituting sulphate of cinchonidia for sulphate of quinia, the writers claiming that the cheaper drug fulfilled every indication met by quinine. I know that many physicians are not aware of this fact, and wish to add my testimony to that already given. I find that in malarial fevers of whatever type, the cinchonidia salt has proved just as certainly a specific as the salt of quinia. Having had a large number of cases of this class treated almost entirely with the drug in question, I have learned to place just as much confidence in it as I have had in quinine, and with equal confidence predict a favorable result. It has not failed in a single instance to prevent the next paroxysm in a tertian, and the next but one, sometimes the next, in a quotidian ague, and is equally efficacious in remittent fever, being well borne by the stomach, and not producing any of the unpleasant head-symptoms which so certainly follow large doses of quinine. I administer it in five-grain doses, either in pill or powder, as the patient desires, every four hours, day and night, without any reference to paroxysm, intermission, remission, or exacerbation, until the patient has passed safely through the "chill day" in a tertian ague, and through two days without chills in quotidian; then continue in smaller doses, say two grains after or before each meal. Considering the fact that quinine is sold at nearly four dollars per ounce and sulphate of cinchonidia at only eighty cents, every physician should be acquainted with the above facts. It will be seen that it only requires about a drachm (or ten cents' worth) of the drug to completely control the disease."

In the *Louisville Medical News* of November 24th, Dr. A. G. Hobbs, writing on the same subject, says: In malarious districts, such as is Southern Indiana, cinchonidia is the country practitioner's greatest boon. The difference in its cost as compared with quinine—one-fourth—is no small item to him who has his two or three ounces a week to buy. During the last three months I have used cinchonidia almost exclusive of quinia in nearly three hundred cases of chills, intermittent, remittent, and bilious fevers, and out of the whole number have been compelled to resort to arsenic in but five cases of chills. My experience in these three hundred cases of malarious fever is as follows:

1. I think it fully equal to quinine as an antiperiodic. Have never used it as an antipyretic, as in typhoid fever, pneumonia, etc.; but if I ever find it necessary I shall not hesitate to risk it as such.
2. It produces no tinnitus aurium; at least, I have never been able to discover it in the size doses that I give it to stop malarious attacks.
3. The stomach undoubtedly tolerates it better than quinine.
4. I find it, so far as I can observe, fully equal to quinine as a tonic in combination with iron.

I administer it in doses same as quinine by bulk, which is about one-third greater by weight. I find the following varieties in the cases of ague that I have kept note of: Simple tertian, seventy-six per cent.; double tertian, five per cent.; quotidian, fourteen per cent.; duplicati, one per cent.; triplicati, two per cent.; quartan, one per cent.; double quartan, one-half per cent.

In the *Medical and Surgical Reporter* of Nov. 17th is another extremely interesting paper by Dr. T. N. Rafferty, on the properties of sulphate of cinchonidia, which our lack of space alone prevents our quoting in full. His experience with the remedy has extended over three years, and includes the use of nearly three hundred ounces. He has administered it to patients of all ages and under nearly all the circumstances when quinia was thought to be indicated. As a simple tonic, he believes the effects of the two remedies to be precisely similar. "Given in doses of five to twenty grains, or more, cinchonidia acts especially on the brain and nervous system; and here, I believe, is a decided difference between its action and that of quinine, although most writers have made their effects identical, except in degree. The first difference which I have noticed, is that while quinine occasionally, and in some persons frequently, irritates the stomach, cinchonidia does so much the more frequently, this being, in many instances, the greatest drawback to its use. In asserting this, I am aware of the fact that it has been urged by some, if not most, of those who have written recently on this subject, that the cinchonidia is much less apt to produce nausea than quinine, and for this reason is often to be preferred, especially in children, and in all febrile diseases in which the stomach is disposed to a state of irritation."

The first observable effect of a full dose of quinia is the cerebral phenomena—abnormal sound, buzzing and roaring in the ears, impairment of hearing, and sometimes defective vision. None of these, so the writer affirms, are induced in any marked degree by cinchonidia. Quinia reduces the force of the heart's action always, and its frequency, almost always; while cinchonidia diminishes the force with as much certainty, but in most persons increases the number of pulsations. Both produce muscular prostration, lower the temperature of the body, followed by profuse and clammy perspiration; and, in excessive doses, may result in prostration and collapse.

Dr. Rafferty's experience demonstrates that in point of therapeutic efficacy the two remedies stand on precisely the same footing, although the effects of quinia are to most persons less disagreeable; and for this reason alone is it to be preferred. The amount required for the arrest or cure of an intermittent fever is 25 to 30 per cent. more than of quinia. It may be administered by the mouth, rectum, or hypodermically; but it is well to remember that, being somewhat more irritant in its local action than quinia, it is more liable, when used hypodermically, to produce troublesome abscesses than the latter. Its use in irregular cases of neuralgia, chorea, hysteria, and pertussis, had not been attempted; but, in pneumonia, typho-malarial fever, and two or three cases of puerperal fever, its use had been followed by a marked reduction of temperature, by a reduction of both the force and frequency of the heart's action, and, in fact, by more or less complete remission. Like quinia, cinchonidia added to the force of uterine contractions when once established. Locally, cinchonidia is rather more irritant than quinia, and will serve similar purposes, as an application to indolent ulcers, etc.

Picrate of Ammonium in Intermittent Fever.

DR. J. W. SNIDER, of Fairland, Ill., writes to the *Ohio Medical Recorder* that intermittent fever has been unusually prevalent in his section of the country this year, no persons or ages being exempt. As a consequence, a variety of remedies was tried, and chief of them *quinia*. Many stomachs failed to retain this remedy in the large doses required, and even when the paroxysms were arrested it was only for a brief period. *Cinchonidia*, owing to its cheapness, received a trial, "and was in several cases successful, as much so as quinia."

Fowler's solution was efficient in some cases of long standing; but relapses occurred, and it seemed to have lost its virtue. *Picrate of ammonium* was resorted to in a number of cases, always with success; and the three following cases are given because they had been unsuccessfully treated with quinia:

CASE FIRST.—Mr. M., aged forty-five years. Has had chills, tertian type, for seven weeks, held partly in check by quinine, cinchonidia, and arsenic. For last two weeks has had chill every second night, though taking forty-five drops of Fowler's solution daily. Prescribed grain doses of picrate ammonium twice a day till six doses were taken. Patient has not had a chill since. On fourth day after, repeated the prescription for fear of relapse.

CASE SECOND.—Child, aged three years, tertian type. Came into my hands after having taken calomel, quinine, etc. Gave Fowler's solution. Chills checked for a few days, but repeatedly recurring. Prescribed one-sixth grain doses picrate ammonium twice a day for three days. No more chills. A few days after repeated the prescription. Child well.

CASE THIRD.—Mrs. S., aged twenty-eight years. Chills for five or six weeks, beginning with slight attack of remittent fever. Quinine in five-grain doses every two hours till four were taken. A chill or two missed. Six-grain doses of cinchonidia, repeated five or six times, failed. Arsenic for a length of time without effect. Gave grain doses of picrate ammonium twice a day for three days; no chills since.

A New Spray-Apparatus.

MR. B. WILLS RICHARDSON, of Dublin, has published a description of a new spray-apparatus, represented in the adjoining cuts, which varies somewhat from those until recently in use. The chief desiderata in a spray-apparatus are, as he says: (1) the capability of producing a large and thoroughly pulverized volume of spray; (2) facility of being worked without causing fatigue and apprehension of failure during an operation; and (3) economy, both as regards original cost and subsequent wear and tear. Fig. 1 represents a sectional view of this spray-tube with bottle and stopper, and may be described as follows:

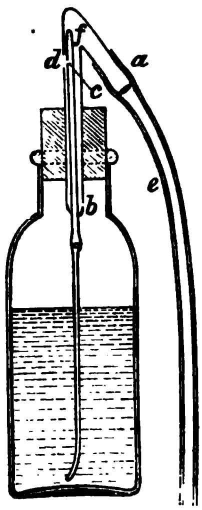


FIG. 1.—B. W. Richardson's Spray-Apparatus.

a, Connection of the caoutchouc blow-pipe with the spray-tube.
b, Aperture in spray-tube for the escape of air into the bottle.
c, Aperture at which the escaping fluid is pulverized.
d, Aperture for scattering the pulverized fluid.
e, Caoutchouc blow-tube, which communicates also with the bellows.
f, Metal spray-tube.

In the ordinary perfume spray-tubes the vacuum produced by the blast of air rushing across the upright tube raises the fluid. When thus raised, it is broken into spray by contact with the blast. In B. Ward Richardson's (London) ether-spray apparatus the power of the bellows is exerted in raising the fluid up to the nozzle which scatters it. By combining both of these arrangements, a perfectly pulverized spray of great volume is produced, which extends from the outlet orifice *c* (Fig. 1) to a distance of from 6 to 10 feet, and having a width, when expanded, of about 2 feet.

By prolonging the inner tube downward within the bottle by means of fine rubber tubing, the spray-tube can be used with large-sized bottles for tedious operations. For perfuming a room, a short piece of rubber tubing is substituted for the long blow-tube; a small bottle for the large one, and the breath of the operator for the bellows.

It is essential that the cork and the metal spray-tube fit tightly, the cork in the bottle and the tube in the cork; a vulcanized rubber stopper is therefore preferable to a cork. Whatever size of bottle is used, the small inner tube should reach quite to the bottom.

Fletcher's blower, which gives a pressure of 10 ozs. to the sq. inch, will work the spray-tube, but Mr. Richardson prefers a larger one which gives double this pressure. This blower is well known in the chemical laboratory in connection with gas-furnaces and blow-pipes. It is worked with the foot and is a wedge-bellows (Fig. 2), having two openings guarded by valves, one in the upper and the other in the lower board. Both valves open upward. A strong internal spring keeps the bellows open when not pressed by the foot. To the upper board the circumference of a disc of stout sheet-rubber is securely fastened with wire. The air enters the lower valve, is forced through the opening by the pressure of the foot, and distends the rubber, which is guarded by a net from over-distention. The elasticity of the rubber insures a constant flow of air. Too thick a piece of rubber should not be used for the latter feature of the bellows. As a blower for a laboratory fire, the bellows may be used by replacing the spring-tube with a piece of iron tubing about 18 inches long.

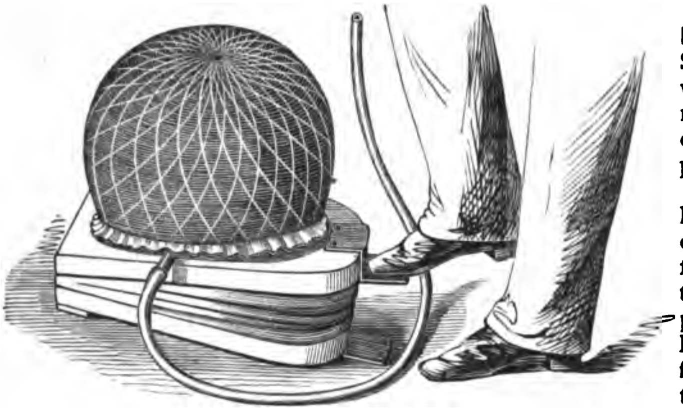


Fig. 2.—Fletcher's Blower.

Chemical Reagents.

BY MALVERN W. ILES.

Although it is generally conceded by chemists that reagents should be pure, yet too often, I am convinced, is this subject disregarded even by competent analysts.

Many discrepancies can, I think, be traced to this source, for if the very tools which the chemist uses to make the elements respond to his inquiries are defective, then his responses must inevitably be more or less erroneous.

It has been a subject of note with what extreme care the analyst determines the ash of filter papers, even to a very small fraction of a milligramme, yet entirely disregards the fact that his reagents may be contaminated with phosphoric and sulphuric acids, also soda, potash, etc.

In the analysis of an iron ore, in which a determination of phosphorus and sulphur is required, it is of the most vital importance that the chemical reagents used should be absolutely free from sulphuric acids.

Prof. Albert Leeds read a paper before the New York Academy of Sciences, in which he mentions the wide distribution of phosphoric acid in nature, having found it in a number of substances in which it was little expected.

The scientific metallurgists have of late years greatly improved the quality of their iron and steel, by securing flux, fuel and building material, containing a minimum of sulphur and phosphorus. Should not the chemist who lays claim to accuracy be equally careful in respect to his results? To illustrate this point, W. H. Greenwood states that "sulphur and phosphorus are the great enemies of good steel; 0.2 per cent. of sulphur renders the metal brittle and 'red short,' while 0.1 per cent. of phosphorus is objectionable, as tending to render it 'cold short' and unworkable at ordinary temperatures." We can easily see what great mischief would be caused by an incorrect analysis under such circumstances.

Fresenius states that we should make it an invariable rule to test the purity of our reagents before we use them, no matter whether they be articles of our own preparation or from other makers.

If this excellent advice were placed in the form of a question to many an analyst, I imagine it would be a source of embarrassment. Nor could a satisfactory excuse be given by stating that all their chemicals were labeled *chemically pure* (C. P.).

I have frequently found chemicals upon which the letters C. P. occupied a most conspicuous place, which upon qualitative analysis showed large percentages of impurities. I therefore look with suspicion upon every chemical labeled *chemically pure*, and regard it generally as a trick of the manufacturers to obtain a higher price for their goods than they really deserve.

In order that I may not be misunderstood, I will state that I believe there are conscientious manufacturing chemists who greatly promote chemical science by the care and intelligent labor they give to their chemicals.

It is not my intention to give a systematic treatise upon chemical reagents; but simply a brief statement of the impurities detected in reagents used in the Qualitative Laboratory of the School of Mines, which it is thought will be fair representatives of chemicals used in laboratories; since the reagents examined are both from American and foreign manufacturers.

The enumeration of the impurities detected will, it is hoped, be of more or less interest to the manufacturing chemist, the analyst, and the pharmacist.

IMPURITIES DETECTED.

Ammonium Hydrate.—From C. K. Kraft, marked C. P., is quite pure; it however contains a trace of alumina and some carbonic acid, probably from the atmosphere.

Ammonium Acetate and Carbonate were found to contain traces of chlorine.

Ammonium Chloride.—From E. Merck, Darmstadt (labeled C. P.)—I found a large quantity of dirt, chips, etc. A trace of sulphuric acid was also detected. By filtration a fair article is obtained.

Ammonia-Iron Alum (bought for C. P.) contains a trace of manganese, lime, and an appreciable amount of chloride.

Ammonium Sulphate (from E. Merck) contains a very large amount of chlorine, a trace of nitric acid, and considerable soda.

Arsenic Salts are very liable to contain both the *ous* and the *ic* acids.

Barium Carbonate.—I examined a number of samples of this salt, and found it remarkably impure. Since it is constantly used in the Qualitative Laboratory, grave errors might easily arise from its use. I find, besides *some* barium carbonate, the following impurities: Phosphoric, hydrochloric, and silicic acids; alumina, lime, magnesia (trace), manganese (trace), large amount of soda, and a very large amount of barium sulphate.

Barium Chloride.—The sediment from this salt was found to contain potash, lime, alumina, carbonic, silicic, and sulphuric acids; considerable organic matter was detected. Even with the above-mentioned impurities, the salt is sufficiently pure for qualitative purposes, since it is almost exclusively used for the detection of sulphuric acid.

Barium Nitrate.—E. Merck's article contains an appreciable quantity of barium sulphate. Charles T. White's barium nitrate contains no barium sulphate; the salt was found to be very pure.

Calcium Chloride contains some carbonic and sulphuric acids, also a small amount of calcium hydrate.

Chrome Alum contains a little iron and alumina; also silicic acid.

Hydrochloric Acid (from C. K. Kraft, labeled C. P.)—Generally contains a minute trace of iron and arsenic.

Hydro-di-sodic Phosphate contains quite an appreciable amount of sulphuric, a trace of hydrochloric, and also silicic acid, and some alumina. (From E. Merck, labeled C. P.)

Magnesium Sulphate contains a trace of nitric acid. (From E. Merck, bought for C. P.)

Nitric Acid (from C. K. Kraft, C. P.), sometimes contains a trace of iron, otherwise very pure.

Lead Acetate contains some iron, hydrochloric, and sulphuric acids.

Minium contains zinc.

Potassium Antimonate (from E. Merck), contains a very large quantity of potassium carbonate.

Potassium Oxalate contains a very large quantity of sulphuric acid. (From E. Merck, bought for C. P.)

Potassium Hydrate (commercial) comes in a liquid form from C. K. Kraft; the sediment contains considerable alumina, a trace of manganese, iron, lime, silicic, carbonic, and hydrochloric acids. (Commercial article, not labeled C. P.)

Stick Potassa, from Powers & Weightman, contains a remarkably large quantity of potassium chloride, considerable alumina, and, of course, some carbonic acid, which it absorbs from the air. E. Merck's stick potassa is quite pure; it contains, however, a trace of alumina.

Potassium Sulphate contains alumina, sulphuric acid, and organic matter.

Sodium Acetate contains a trace of chlorine.

Sodium Carbonate.—E. Merck's dry anhydrous sodium carbonate is generally very pure; it, however, frequently contains a minute trace of sulphuric and hydrochloric acids. Some samples are entirely free from sulphur.

Sulphuric Acid (common) comes from C. K. Kraft, contains iron and lead; very rarely contains nitric acid or oxides of nitrogen.

Sheet Zinc contains considerable lead. Granulated Belgian zinc contains a trace of iron. New Jersey and Lehigh zinc is nearly chemically pure, contains only a trace of iron, and occasionally arsenic in minute quantities.

Opium in Epilepsy.

In the *Ohio Medical Recorder* of November, Professor D. Todd Gillman, of Columbus, gives some sensible remarks on the fashions of medicine, followed by some personal experience in the use of opium in cases of epilepsy, without having been governed by any preconceived opinions in regard either to the disease or the drug. Cases were taken as they presented, and, as a consequence, observations were made upon such as had their cause in drunkenness, pain, traumatism, heredity, and cases of periodical occurrence. He declares that his success has been uniform, and that in every instance he has been able to arrest the paroxysms, and in even notable instances the opium succeeded after other remedies had failed.

Cinchona and Iron-Salts.

CATILLON remarks, in *Répertoire de Pharmacie*, that the well-known discoloration of a mixture of syrup or wine of cinchona with iron-salts—with iodide of iron, for instance—which is owing to the formation of a tannate of iron, may be entirely prevented by dissolving alcoholic extract of cinchona in pure glycerin, and adding to it the iron-salt likewise dissolved in glycerin. The mixture remains clear, and has the characteristic tint of cinchona.

Grindelia Robusta in Whooping-Cough.

AT a recent meeting of the Suffolk District Medical Society, Dr. Pattee called attention to the beneficial effects of the drug in certain pulmonary affections, and remarked that most of the fluid extract sold in this market was said to be worthless. Dr. Pattee had used the tincture in bronchitis, asthma, and whooping-cough, in doses of half a drachm or more, repeated every one or two hours. The effect was said to have been curative in thirty cases of whooping-cough, after three or four days, without the occurrence of relapses. The dose for a child two years old would be about ten drops.

Thymol as an Antiseptic.

DR. L. LEWIN has found that the addition of one-tenth of one per cent. of thymol is capable of arresting saccharine and lactic fermentation, which would place this substance even higher in rank than carbolic or salicylic acids. It suppresses every kind of fermentation or putrefaction. Dr. Lewin recommends it chiefly for the antiseptic treatment of wounds, also as a remedy for stomachic fermentation and dilatation, and in diseases depending upon the action of living organic germs, such as diphtheria. It also arrests excessive secretion by mucous membranes. For internal administration it may be given in solution in water, 0.5 gm. of acid in 1,000, afterwards of double the strength, 1.0 gm. in 1,000, two, three, or more tablespoonfuls a day. For external use the saturated aqueous solution (1 : 1,000) is generally sufficient; but for washing out offensive wounds it should be employed in a stronger, alcoholic, solution.—*Virchow's Archiv.*

The Use of Capsicum with Quinia.

PROF. WM. H. THOMPSON says that either capsicum, ginger, or other aromatics, combined with quinia, will diminish the amount required of the latter.

"A good dose of capsicum combined with twenty grains of quinine will act as well as thirty grains of quinine without the capsicum. Spices in general stimulate the portal circulation and promote the flow of bile, and hence their universal use in hot climates. There is a tendency on the part of quinine and capsicum to purge, and sometimes to purge violently. In such cases the purgative action is caused by the increased flow of bile produced by the capsicum. Ginger and quinine, when combined, do not purge, and it makes a very good combination. If the medicine is administered in form of pills, capsicum may be preferable because of the less bulk required; but, if desirable, the ginger may be given separately, and with the same effect as when combined with the quinine. The proportions should be one grain of capsicum to three of quinine; with ginger, one grain of each."—*The Medical Record.*

Solidification of Carbon Bisulphide.

M. MERCIER finds that if bisulphide of carbon be added to a mixture of a drying oil and protochloride of sulphur at the moment of mixing, it is entangled in the jelly formed by the oil and protochloride. With boiled linseed oil and ten per cent. of the protochloride a transparent elastic mixture can be obtained containing 70 per cent. of bisulphide of carbon. The substance ignites only with difficulty, and loses the contained bisulphide but slowly.

Formic Acid as a Preservative.

ACCORDING to the statements of G. Feyerabend, of Tilsit, formic acid, added to acidulous solutions, exceeds even carbolic acid in preservative power. It is particularly adapted to the conservation of fruit-juices. Its taste is purely acid and agreeable, its price is moderate, and the quantity required to be added to vinegar, fruit-juices, glue, ink, etc., is only ¼ to ½ per cent.—*Industr. Bl.*

Detection of Salicylic Acid in Mixtures.

CONCENTRATE the mixture in the water-bath, to remove any accompanying alcohol, add to the residue dilute sulphuric acid in strong excess, so as to render it strongly acid and to restore it to a fluid condition, and shake the whole with ether, which dissolves the salicylic acid. On evaporating the ethereal solution, the acid is left behind, and may be weighed.—*Pharm Centralh.*, 1877, 321.

Combined Effects of Opium and Belladonna.

DR. J. N. MILLER reports, in the *British Medical Jour.*, a case to prove that belladonna or its alkaloid rather intensifies than antidotes the effects of morphia.

In this case it was found that four-fifths of a grain of morphia, combined with one-fortieth of a grain of atropia, was equal in the relief of pain to two grains and two-fifths of morphia, and that it produced sound sleep at once, while the morphia alone gave only dozing and easily-interrupted sleep for an hour or more.

At another time, two doses of four-fifths of a grain of morphia and one-thirtieth of a grain of atropia were given with an interval of four hours, and had the effect of rendering the patient so comatose that it was only with the greatest difficulty that she was aroused.

RECENT PAPERS.

American Journal of Pharmacy.

November. H. G. Debrunner: "Iron and its Constituents in Regard to Pharmaceutical Preparations." [Regards soft steel drillings and turnings as much preferable to iron wire. The former are also purer, containing 99.52 (axle steel) and 99.539 (steel boiler-plate) per cent. of pure iron. The author then discusses the compounds which iron and its constituents form by the action of various solvents. In conclusion, he recommends a colorimetric test for the estimation of the strength of a solution of dialysed iron, by preparing a standard solution of known strength, and diluting the unknown solution successively to such a point that it will exhibit, in equal layers, the same shade of tint as the standard solution.]

H. Trimble: "Estimation of Quinia." [The author proposes a colorimetric test, based on the thalleioquin reaction. A standard solution of 0.01 grm. (0.154 gr.) of quinia, or one of its salts, is prepared by dissolving it in about 5 c.c. of fresh chlorine water, adding 10 c.c. of ammonia, and diluting to 100 c.c. In estimating quinia pills, etc., one of them is taken, powdered, treated with chlorine and ammonia, and the liquid diluted until it has, in equal layers, the same tint. From this may be calculated the quantity of quinia.]

H. Trimble: "Preparation of Concentrated Nitric Acid." [Recommending the old method of heating nitric, mixed with 2 parts of sulphuric acid, in a retort over a small flame. The nitric acid distilling over is of a high spec. grav., of a bright yellow color, and very energetic in its action.]

Pharmaceutische Zeitung. Nos. 83–88.

Professors of Pharmacy? [The German Apothecaries' Society at their last meeting resolved to memorialize the government of the various States to establish a separate Chair on Pharmacy at those universities where the same did not yet exist, and to urge that it be filled with a practical pharmacist. In answer to this petition the Bavarian Government, after soliciting the advice of the medical and philosophical faculties of the three Bavarian universities, replied substantially that there are already two such professorships in existence, one at Munich and the other at Erlangen. There is, however, none at Würzburg. And the senate and faculties of the latter university had unanimously declared that the establishment of such a chair would not only not be a benefit to the pharmaceutical profession, but an absolute disadvantage. Pharmacy as such has almost ceased to exist. Division of study, like division of labor, has caused the splitting up of a mixture of branches, such as apothecaries formerly used to possess, into distinct professions, which cannot well either be pursued or studied by one man exclusively. Hence they cannot be sufficiently mastered in all their details to be taught by one man, and students will, under all circumstances, profit a great deal more by having them taught by specialists. The practical part of the profession, as well as the elementary education in the rudiments should be left to the employer. And here the report of the senate of the university severely censures the present employers, whose pupils, when coming to the university, are frequently found so ignorant in the most common details of the profession, and so little familiar even with the appearance and names of many drugs, that a great portion of their time at the university has to be employed in making up for lost time. There is a great deal of truth in these remarks, and the latter part of them deserves to be particularly called attention to, for it is *tout comme chez nous.*]

Charbonnier (fr. *Jour. Ph. et Ch.*): "Adulteration of Valerian." [States that the market contains quantities of valerian root mixed with as much as 30% of the root of *Vincetoxicum.*]

L. Hebenstreit: "On Bebeeria as a Substitute for Quinia." [Denies absolutely that bebeeria has reliable febrifuge properties, and implies that its reputed virtues are mainly due to the puffings of transatlantic (American) and English physicians. He declares that he will await the verdict of 'German' physicians. If the author were less self-conceited, we would undertake to show him that the opinions of transatlantic physicians are, as a rule, based on as sound common sense and are just as reliable as those of the continental ones, although we cannot deny that therapeutics are more systematically studied in Germany than elsewhere.]

Prollius: "Assay of Opium." [Exhaust opium by means of water, evaporate the solution and dissolve the extract in 34% alcohol, in such proportions that 10 parts of the solution represent 1 part of opium. Then mix 50 parts of this tincture, 25 parts of ether, and 1 part of stronger water of ammonia, shake them briskly together and let stand 24 hours. Both layers appear first perfectly limpid. Gradually, however, the morphia is separated at the point of contact of the two layers, in fine crystals, coalescing to a crust, which sinks to the bottom. The coloring matter, narcotin and the other uncrystallizable constituents, remain in solution partly in the ether, partly in the alcoholic layer. The liquids having been poured off, the crystals are washed with a little very dilute alcohol, dried and weighed. The results are said to be very reliable.]

Berichte der Deutschen Chem. Gesellschaft.

J. Piccard: "On Cantharidin and One of its Derivatives." [The author has found, by determination of the vapor-density of cantharidin, that the heretofore accepted formula $C_5H_6O_2$ must be doubled; its composition is therefore $C_{10}H_{12}O_4$. He has also discovered that, by heating cantharidin with hydriodic acid in closed tubes, the former is converted into an isomeric substance, having strong acid properties, and forming anhydrous crystals. He has named it cantharidic acid.]

Jul. Thomsen: "The Amount of Water in Dried Chloride of Gold." [Chloride of gold, such as is used in the arts and in medicine, is the crystalline hydrated *acid* salt, which heretofore has been considered to contain 3 molecules of water: $AuCl_3$, HCl, $3H_2O$. The author has, however, by means of a series of very exact analyses of the perfectly dry salt, demonstrated that its composition is $AuCl_3$, HCl, $4H_2O$. This corresponds to a percentage of 47.80 of metallic gold, while, according to the old formula, the percentage would have been 49.98.]

Répertoire de Pharmacie. Nos. 19–21.

J. Clouet: "Arsenical Glucose." [In view of the fact that glucose is used at present in very large quantities by brewers, confectioners, and others, and that its consumption is likely to assume immense proportions, the author warns from the use of *glucose containing arsenic*, the presence of which is owing to impure sulphuri cacid used in its preparation. He has met with samples of glucose containing from 0.015 to 0.109 gm. of arsenic in 100 gms. of glucose.]

S. Cotton: "Adulteration of Santonin." [The author states that he has met lately with samples of santonin, containing 22.5% of boric acid. The fraud is easily discovered by igniting the substance, dissolving the residue in boiling water, and allowing to crystallize, when boric acid separates, recognizable in the usual manner.]

Poisonous Bread, obtained from a Paris bakery, and jeopardizing the lives of a large number of persons, was found, on inquiry, to have been rendered so by being baked in contact with a fire fed by second-hand lumber, which was partly painted, and partly impregnated with copper and zinc. The Board of Health of Paris have therefore officially interdicted the use, for culinary purposes, of any wood which has been painted or been treated with any chemicals whatever.

Zeitschrift d. Oester. Apotheker Vereins. Nos. 30-32.

Ed. Hanausek: "On Some Peculiar Resins." [The author furnishes an account of some less known resins, belonging to the Museum of the Vienna Board of Trade. 1. *Résine Chaï* of Cochinchina. Chaï-resin, in large, bright yellow masses, is said to be derived from Shorea rubrifolia (Dipterocarpeæ). The so-called Résine Dhoona, Dhoona resin, or Saul resin, is obtained in India from Shorea robusta Roxb., and another resin from Shorea Tambuqaia; but both the latter differ from the former. 2. *Résine de Chackamaque*, Chackamac Resin of Madagascar, large, irregular pieces, interspersed with white patches of strong and disagreeable odor; origin unknown. 3. *Résine de l'arbol à bréa.* Resin of the "elemi" tree. Such is the name of a specimen received from Manila; but its characteristics differ entirely from those of Manila-copal, Piney-resin, Manila-elemi, or Bengal elemi.]

Pharmaceutische Zeitung f. Russland. Nos. 17-20.

A. Poehl: "Chemical Investigation of Eucalyptus Leaves." [The author confirms the absence of any alkaloid. The essential oil, which was separated by distilling in a stream of carbon dioxide, or the so-called eucalyptol, is perfectly colorless, boils at 170-171° C., and has a specific gravity of 0.9175 at 15° C. It turns the plane of polarized light to the right. Eucalyptol possesses the property of other terpenes, to convert water in presence of air and sunlight into hydrogen dioxide, or to convert oxygen into ozone.]

Prof. Dragendorff: "On the Constituents of Ergot." [Announcing that he has succeeded in separating one of the substances, which he formerly obtained and named Sclererythrin (see New Rem., 1876, p. 208), into three bodies, one being sclererythrin proper, another being a very bitter alkaloid picrosclerotine, and a yellowish-brown acid, fuscosclerotic acid.]

Gazette Hebdomadaire. Nos. 31-40.

Dr. Kercea: "Difference in the Action of the Salts of Pilocarpia according to the Dose." [The author states that, according as a greater or smaller quantity of the hydrochlorate of pilocarpia is administered, sweating or salivation may be produced at will.

Thus, a dose of from 1 to 10 milligrames causes sweating. 10 to 20 causes salivation, and a dose of more than 20 milligrammes causes nausea and vomiting.]

V. Feltz: "Experiments with Chloroform upon Putrefied Blood." [Chloroform mixed with putrefied blood in the form of a vapor, or directly added to it, has no appreciable effect upon the vibrios nor upon the septicity of the blood. Consequently it should never be employed to separate the diastasic from the organic ferments in putrefied blood.]

Bulletin Général de Thérapeutique.

M. Laborde: "The Physiological Action of Salicylate of Soda." [In a paper read before the Academy of Medicine of Paris, Mr. Laborde draws the following conclusions as the result of numerous experiments made upon dogs:

The physiological action of the salicylate of soda is directed principally to the functional phenomena of sensibility to pain.

The mechanism of this action resides in the influence exercised by the chemical substance, not upon the conducting property of the sensitive nervous cord, but upon the receiving and elaborating centre of the peripheric impressions.

This action upon the functional phenomena of sensibility, and consequently upon the cerebral seat of these phenomena, affords an explanation of the effects produced upon painful symptoms in the morbid state, and it is principally in virtue of this property that salicylic acid is effective in the cure of articular rheumatism.]

ORIGINAL COMMUNICATIONS.

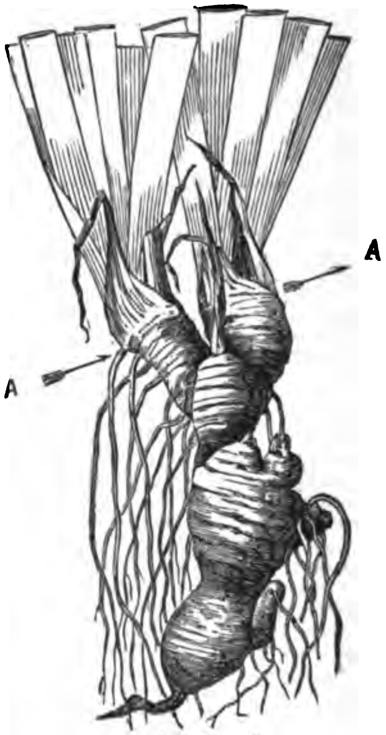
SCENT-YIELDING PLANTS.*

BY G. W. SEPTIMUS PIESSE, PH.D., F.C.S.

(Continued from page 341.)

Orris-Root.

Iris Florentina is the plant which yields the orris-root, everywhere so much esteemed. Even the peasant-girls in Italy, and in those countries which fringe the Adriatic, possess a few hanks of orris-beads. M. Grazzini, a turner near Florence, produces more than two tons of orris-beads annually. Beauty they have none; but their fragrance, like that of violets, is lasting and always fresh. The orris-root, having been slowly and perfectly dried, is cut with circular saws into cubes which are then converted into beads. Some hundredweights of chips and shavings result from this work, to the value of which I shall presently advert. The Iris Florentina, or orris-plant, for commercial purposes, is mostly farmed about Pontassieve, in Tuscany. The root-harvest for each plantation takes place once in three years, so that of necessity there are plants always on the farm in three stages of growth. The harvest takes place in the spring before the iris begins its usual growth. The roots are dug up and the flags cut back, as shown in the annexed illustration; each root is then decapitated at a point indicated by the arrows AA; the head is then replanted and grows with great vigor, making, in the course of three years, numerous offshoots in the form of fresh roots. This iris flourishes best in a soil that is somewhat marshy and stony, a kind of land not often found except at Pontassieve, where it exists in perfection; it is, in fact, a poor soil, but notwithstanding that, the plants require no manure.



Root of Iris Florentina.

The Iris Florentina is of larger growth than the common blue flag of English gardens, and the flowers far less numerous and of a very pale blue; moreover, it does not come into blossom when first transplanted into British soil, until five or six weeks later than its naturalized English ally. In spring, when the roots are dug up, they are spread out to dry and ripen in the open air; each root is then trimmed by a woman, with a short, sharp knife, into the shape in which it is found in the market. It is also at the same time sorted into the various qualities under which it is sold. The dark-colored roots are often bleached by means of the fumes of burning sulphur—an operation, however, which is very detrimental to them as far as perfumery purposes are concerned; but for bead-manufacture they are improved by being whitened.

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* From *The Garden*.

For scent-yielding purposes the orris-root is used in two forms—one in powder, the other as a spirituous tincture. For producing the powder or flower of orris the root has to be perfectly dried; it is then crushed under mill-stones, and finally reduced to powder in a drug-mill. The orris-powder thus produced is mixed with dry wheat-starch in the proportion of 1 pound of orris to 6 pounds of starch-powder. After being sifted and blended they are allowed to remain together for a time, when the starch becomes fragrant, and the product is the well-known "Violet Powder" of the shops. In this way many tons weight of orris-flour are used. Almost all tooth-powders contain about one-quarter of their weight of orris-root flour. Shakespeare thus chides the violet:—

Whence did thou steal thy sweet that smells,
If not from my love's breath?

When orris-flour is tied up in cushions or bags (sachets), and distributed among the clothes in a bureau, it gives to the linen a most delightful odor.

The tincture or essence of orris is made by intermixing 1 gallon of rectified alcohol and 8 pounds of broken orris-root; or, better still, the chips and shavings from an orris-bead turnery. These ingredients should remain together in a glass or copper vessel for about a month. When drawn off the tincture will be quite bright, and it is then ready for use. This extract enters largely into the composition of many of the most celebrated "bouquets," but it is never sold pure, because its odor, although grateful, is not sufficiently sweet to win public favor on its own merits. It possesses little aroma itself, but it has the power of strengthening the odor of other fragrant bodies. The celebrated "Ess. Bouquet" consists of one-third of its volume of extract of orris, as does also the equally famed "Jockey Club Bouquet." The Iris Florentina could be cultivated in several of the English colonies, more particularly the Cape of Good Hope, and that, too, with considerable profit.

Mints.

The plants included in the genus Mentha are nearly all highly aromatic, containing in their leaves a very pungent volatile oil or otto. The kinds best known are the Peppermint, Pennyroyal, and Spearmint. Of these the Peppermint is that which now most concerns us. Some of the fairest fields in Surrey—those in the neighborhood of Mitcham, Carshalton, Beddington, Sutton, and Wallington—are devoted to the growth of peppermint. Nearly all this district occupies a plateau surrounded in the distance by hills, and Haddon Marshes being in its centre, well indicate the general run of the soil, which, with plenty of sand, just suits the growth of peppermint. The plants are readily propagated by dividing the roots, which are planted one foot apart each way. This is done in April, and great care is taken to prevent weeds growing amongst them, so as to ensure a pure sample of oil. The fields are plowed up and the crop changed about every five years; little else is used in the way of manure besides the spent herb from the still-house, which is put on the land in spring, after having had about half a year to ferment and decay. Peppermint is also largely grown in North America—in Wayne county, New York; in Ohio; in St. Joseph's county, Michigan, and in Strathroy, Canada. The oil imported from these localities finds a ready sale in London, and thence it is sent to Northern Europe. In dealing with a subject of which parliamentary blue-books take no cognizance, it is difficult to fix statistically the quantity of oils obtained annually, but I should say that not less than 33,000 pounds of it are produced in Surrey alone. The best English oil has an average value of, say, 30 shillings per pound; but the American oils only realize about half that sum; a circumstance to be attributed not so much to climate or the quality of the plant itself, as to weedy cultivation. Weeds are carried into the still with the peppermint, and as many of them yield an oil, the true peppermint oil becomes deteriorated. In Surrey two varieties of peppermint are grown — technically known as white mint * and black mint.† The mint harvest, as a rule, begins about the third week in August, and all is not garnered until the end of September. During this interval the stills are worked night and day without cessation, Sunday excepted. The mint is cut with a sickle or scythe, and is left to dry on the ground; it is then tied up in "mats" of, say, 56 pounds each, and taken to the still-house. About 60 mats, or over 300 pounds weight, are produced by each acre of land.

White Mint.

In Surrey there are about 1,200 acres under mint alone, namely, 500 acres of white and 700 acres of black mint. The white kind yields, on an average, 24 pounds of oil to the acre, say, 24 x 500=12,000 pounds, which, at the very low price of 30 shillings per pound, shows a value of £18,000 ($87,480). The black mint, which yields more oil than the white, averages some 30 pounds to the acre, but it has a lower market value, say 25 shillings per pound —30 x 700=21,000 pounds. This gives a value of £26,250 ($127,575), or a total of £44,250 ($215,055).

These figures surely ought to induce young emigrants to some of the British colonies to commence without delay the culture of scent-yielding plants. The white mint is more susceptible of injury from the spring frosts and summer drouths than the black kind; hence, both are grown, in order to insure a crop of some sort. The operation of distilling is simple enough; it consists in boiling the herb in water, and passing the steam generated through a hollow wormed pipe placed in a vat of cold water; the oil rises with the steam, and is condensed in the worm, falling out at

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* Mentha piperita officinalis.

† Mentha piperita vulgaris.

the end into a receiver; the oil floats upon the water, and is ladled off from time to time. A "charge," as it is termed, for the still consists of 20 mats of 56 pounds each, or half a ton of mint, and about 70 gallons of water. It is then boiled slowly, with a steady fire, for seven hours, at which time all the oil is out of the mint; the still is then emptied by a tap of any water remaining, and the spent mint is forked out of the alembic, an hour being allowed for this work and to effect another charge. Three charges are thus worked during the twenty-four hours, or what is equivalent to the product of an acre of land.

Black Mint.

ALUMNI ASSOCIATION OF THE COLLEGE OF PHARMACY OF THE CITY OF NEW YORK.

At the stated meeting of the Alumni Association of the College of Pharmacy of the City of New York, held in October, 1877, the following papers were read:

PELLITORY ROOT.

Mr. Charles G. Clark mentioned an error in the U. S. Dispensatory under the head of "Pellitory." The statement that this drug is a powerful irritant he had found to be incorrect. It seems to have only mild stimulant properties, and is considerably used in tooth-washes.

LOBELIA INFLATA.

Charles S. Plumb, M.D., pointed out the inaccuracy of the U. S. Dispensatory in regard to the statement that Lobelia root was used in medicine. The root, according to Dr. Plumb, is almost inert, and is not found in the market.

The general characteristics of the leaves, as given by authorities, is correct, except the conclusion that Lobelia is poisonous. The writer maintained the view that relaxation was the principal effect, whilst several authorities had used the term prostration to designate the symptoms following the use of Lobelia herb, which is wrong, because no stupor follows, no convulsions, no permanent debility, in fact, no symptoms of a narcotic poison are observed, as we see in those drugs properly called narcotics.

It was also stated, in contradistinction to the Dispensatory, that the drug has no cathartic properties whatever, but it produces speedy and severe vomiting, attended with continued nausea, copious sweating, and great general relaxation, as described in the Dispensatory.

The writer denounced as erroneous the statement that Lobelia in large or too frequently repeated doses produces extreme prostration and death, preceded by convulsions.

In substantiation of this latter statement he remarked that he had taken very large doses, and had seen prescribed, by several physicians, repeatedly, doses of one-half to two or three drachms, without any injurious effects following, even when the drug had been retained in the stomach.

The detailed experiments with this drug led to the conclusion that the common reputation of Lobelia was far from the truth, and that its poisonous effects had come by association with nicotina without careful analysis of its medicinal properties.

ADULTERATION OF OIL OF ORIGANUM.

J. W. Ballard (of Davenport, Iowa) stated that he was aware that pure oil of origanum is sometimes hard to find, but the specimen that came under his observation a few weeks ago was so peculiar, at least to him, that he forwarded a description:

The oil was bought for pure, labelled pure, and priced liberal. It was very light colored, and had an agreeable, though not a strong odor.

It would not mix with turpentine spirits in any proportion, but when shaken would give an opalescent mixture, and soon separate. It would burn readily, but without the dense smoke that the pure oil gives. On agitation with water three-fourths of the oil remained mixed with the water, while one-fourth appeared at the top. This layer of oil floating at the top gave all the indications of being oil of origanum. This mixed readily with spirits of turpentine, etc. From the specific gravity, color of flame, etc., Mr. Ballard concluded the mixture to be one-fourth oil of origanum and three-fourths alcohol.

A KANSAS MINERAL WATER.

Mr. Ballard also submitted a report of an examination of water from a well near Wichita, Kansas.

The water was perfectly clear and not unpleasant to the taste. On evaporating to one-half its volume no precipitate appeared.

A portion was mixed with hydrochloric acid and chloride of barium, resulting in a white precipitate, indicating sulphuric acid.

On adding chloride of ammonium, ammonia, and oxalate of ammonium, a dense white precipitate appeared, indicating lime.

The water was now freed from lime by precipitation and filtration, and ammonia and phosphate of sodium added. A white precipitate occurred, indicating magnesia. Search for the other elements failed to detect more than a mere trace; therefore the writer reported the water to contain sulphate of lime and sulphate of magnesia. On evaporating to dryness the amount of mineral matter was one hundred and twelve grains to the gallon.

The owner of the well then reported the following facts in regard to it: Water dipped from the surface of the well with a bucket (the well contained seventeen feet of water) produced no sensible effect on the system; that obtained from the bottom by a pump, if used freely as a laboring man would in the warm season, produced griping and purging. A moderate use of the water seemed to be beneficial, as the owner had formerly been troubled with bilious attacks, etc., and now enjoyed excellent health, which he attributed to the use of the water. He was formerly much troubled with constipation, but now had regular movements.

QUANTITATIVE TEST FOR CARBOLIC ACID.

Mr. A. F. Nietsch recommended the conversion of carbolic acid into sulphocarbolate by digesting equal volumes of phenol and concentrated sulphuric acid until they have combined; water is added to dissolve the sulphocarbolic acid, which is filtered and treated with oxide of lead or carbonate of baryta in excess. The solution of sulphocarbolate of lead or baryta is filtered from the excess of lead or baryta, and decomposed with dilute sulphuric acid. The precipitated sulphate of baryta or lead is washed, dried, and calcined.

One hundred parts by weight of sulphate of baryta is equal to eighty; and one hundred parts by weight of sulphate of lead is equal to sixty-two parts by weight of carbolic acid, from which the percentage composition of the tested sample can be easily calculated.

THE GRANULATED WHITE SUGAR OF THE MARKET.

MR. E. W. RUNYON had found, on comparison, that the several brands of supposed A No. 1 granulated sugars of the market, produced syrups of different tints, which suggested an examination of their quality. Samples were found containing a considerable proportion of ultramarine, which, after several days' standing, was deposited. Syrups made from sugars having the ultramarine impurity are discolored, being usually of a pale straw color.

This adulteration and additions of sulphate of tin, alum, etc., are used by refiners in the interest of dollars and cents, and are designed to neutralize the yellow tint in imperfectly refined sugars. The practice is known among refiners as adding the complementary color.

Unquestionably ultramarine adulteration is chemically injurious, being decomposed by fruit or organic acids with evolution of sulphuretted hydrogen, which produces a disagreeable taste; aside from this serious objection the officinal syrups instead of being colorless and bright are tainted and dull in appearance.

Pure sugars can be had by purchasing from first-class manufacturers and paying a slight advance on the price of ordinary marketable granulated white sugar.

FORMULA FOR USE IN DIPHTHERIA.

TO THE EDITOR OF NEW REMEDIES.

SIR:—Allow me to suggest the following recipe to be used with the hand atomizer in diphtheria:

℞. Acid. salicylic ....℈ ij.
Sodii bisulphitis........................℈ iv.
Glycerine............................ʒ iv.
Aq. flor. aurantii ....ad ℥ iv.
M.
S. A small quantity to be used hourly with the atomizer.

Respectfully yours,
F. A. BURRALL, M.D.

28 WEST 11TH ST.

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Export of Drugs from Ceylon.—*The American Mail and Export Journal* gives the following figures among other statistics of exports from Ceylon since 1874:

	Cinnamon. *lbs.*	*Cocoanut Oil.* *cwt.*	*Plumbago.* *cwt.*	*Cinchona.* *lbs.*
1877........	829,842	143,686	103,370	34,053
1876........	1,035,483	175,936	118,618	14,548
1875........	840,682	106,004	90,118	18,716
1874........	891,126	107,859	147,850	

Maté as a Substitute for Tea and Coffee.—Mr. O'Conor, of the British Legation in Brazil, calls attention, in a recent official report, to yerba maté, an article largely cultivated in the province of Parana, and exported to neighboring South American countries, but hitherto not on the list of exports. He says it is more fortifying and alimentary than either tea or coffee, and much more wholesome, and can be sold at a price so moderate as to place it within the reach of all classes. He states that the Minister of Agriculture has appropriated a small sum for the purpose of making this excellent plant known in Europe.

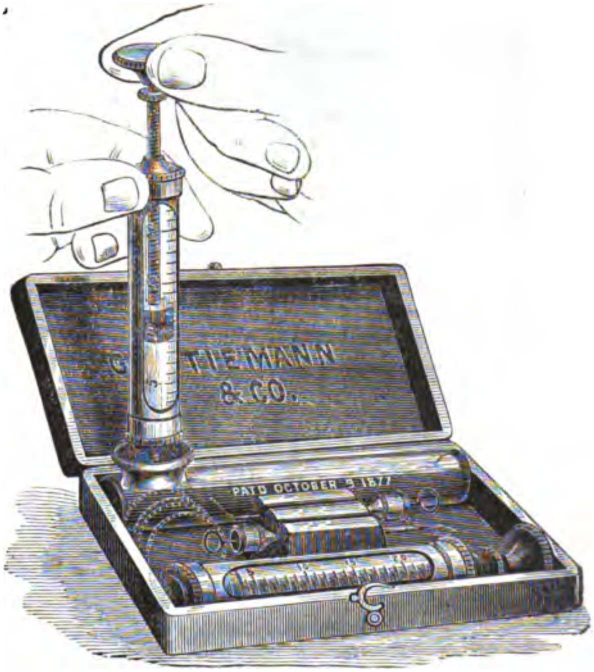
TRADE NOTES.

George Tiemann & Co's. Hypodermic Syringe-Bottle.

(Patented Oct. 9, 1877.)

GREAT inconvenience is often experienced in filling a hypodermic syringe from the ordinary bottle, because of its narrow neck and its liability to upset.

The narrow neck prevents the insertion of the end of the syringe, or, if the syringe is screwed upon the bottle, a partial vacuum is liable to be formed, so that the piston returns when released and often some of the fluid re-enters the bottle. The liability to spill the contents of the bottle is increased by the fact that it has to be removed from the case and stood upright.



Tiemann's Hypodermic Syringe-Bottle.

All these difficulties are overcome by the above improvement, the bottle having the mouth at a right angle to its body and made sufficiently large to admit the nozzle-end of the syringe. It need not be removed from the case for the purpose of charging the syringe. You merely turn the neck upward, remove the stopper, insert the syringe into the fluid, and draw upon the piston until the desired quantity of medicine has entered the barrel. The case is made to hold the bottle tightly in any position, so that both may be left on the table during the operation, without fearing for the safety of the glass or its contents.

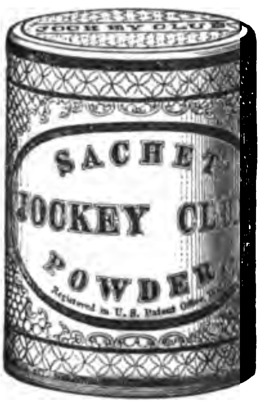
After having operated and replaced the needle and syringe in the case, the bottle is corked and turned back to its former position.

Toussaint's Extract of Malt prepared in Vacuo. MR. TOUSSAINT, who has just completed his new vacuum apparatus for the manufacture of Extract of Malt, by means of which he will be able to furnish even a better quality of this article than before, has received a well-merited distinction in the shape of a medal of merit at the exhibition of the American Institute. The new extract, which we have had occasion to examine, leaves, certainly, nothing to be desired.

Kava Kava.

We have to thank Messrs. J. C. Allan & Co., of Buffalo, for a very handsome specimen of the root of Kava Kava, to which we have already referred as a new and remarkably successful remedy (if reports are to be credited) for gonorrhœa. Messrs. Allan & Co. have imported on their own account a quantity of the drug, which they guarantee to be genuine, and are prepared to supply orders. The sample received presents all the botanical characteristics referred to on page 68.

Metcalfe's Sachet Powders.



There are few trifles which give such lasting pleasure in the way of holiday presents as sachets, and we take pleasure in recommending the powders prepared in great variety by Theodore Metcalfe & Co., of Boston, for the salable appearance of their packages and the delicacy of flavor of the contents. The former is shown in the adjoining cut, and consists of paper-covered tin boxes of two sizes, holding respectively one ounce and half a pound.

The price of the powders is $4.00 per dozen (ounces), with a discount according to quantity, or $4.00 per pound, with discount.

ANALYSES OF PHARMACEUTICAL CHEMICALS AND PREPARATIONS.

◆

We are now prepared to send samples for the February prize to such as may desire to compete for it. Answers must be received before the 20th of January, and be accompanied by a sealed envelope containing the name of the writer, and designated by a device or motto, which is also to be placed, instead of the writer's name, upon the report of the analysis.

Persons to whom a prize has been awarded are requested to send to the publishers the title of any book or books they may desire, not exceeding in the aggregate the value of $10.00.

The prize this month will be awarded to E. B. Stuart *("Veritas"), of Chicago, Ill.*

◆

The December sample contained bismuth subnitrate ninety-eight per cent., lead nitrate one per cent., and arsenic acid one per cent. The subnitrate was impure from the presence of a small amount of bismuth oxychloride (BiOCl) and a trace of iron.

It may be profitable to study the U. S. P. process for the preparation of "Bismuthi Subnitras," that we may see just how the Pharmacopœia provides for the prevention of impurities. "Commercial bismuth of good quality" is the specified material; it "usually contains a small proportion of arsenic, copper, and silver" (U. S. P.); lead, also, is not an infrequent impurity.

1. Bismuth is dissolved in nitric acid diluted with about an equal bulk of water: formation of $Bi(NO_3)_3$, also there may be present some H_3AsO_4 and nitrates of lead, silver, and copper.

2. The solution is diluted with a moderate amount of water and allowed to stand twenty-four hours. Most of the H_3AsO_4 separates as a basic arseniate of Bismuth ($Bi_2O_2AsO_4$), which is removed by filtration.

3. The solution is now precipitated by Na_2CO_3; the precipitate contains $Bi_2O_2CO_3$ (subcarbonate), Ag_2CO_3, and basic carbonates of Pb and Cu. The filtrate, which is rejected, contains the remaining arsenic acid as soluble sodic arseniate (Na_2HAsO_4).

4. The precipitate is dissolved in nitric acid, forming nitrates of bismuth, copper, silver, and lead. This solution is slightly diluted, and set aside twenty-four hours to allow any *traces* of arsenic to precipitate, as explained in 2.

5. To the clear solution is added sufficient water of ammonia (10 per cent. NH_3) to precipitate $BiONO_3$—: thus,

$$Bi(NO_3)_3 + 2NH_4OH = BiONO_3 + 2NH_4NO_3 + H_2O.$$

If too much, or too strong ammonia is used, the precipitate consists, wholly or in part, of $Bi(OH)_3$.

This precipitate may contain a little basic lead hydrate. Copper and silver are held in solution, as double salts, by the ammonium nitrate present; probably some of the lead is also thus prevented from precipitating.

If the above process is strictly followed, the subnitrate will be of sufficient purity for medicinal use. Manufacturers prepare the salt more easily by pouring the nitrate into much water, whereby the subnitrate is precipitated:

$$Bi(NO_3)_3 + H_2O = BiONO_3 + 2HNO_3.$$

The solution still contains a little bismuth, which sometimes is precipitated by strong solution of common salt as oxychloride (BiOCl). As thus prepared, the subnitrate often contains more than *traces* of the impurities named; the sample fairly represents such a preparation.

The detection of arsenic, and more particularly lead, when present with much bismuth, is a rather difficult matter. Only the direct tests can be given in this article for want of space.

(*a*) Arsenic may be detected, by Marsh's test, as follows: place in a long test-tube some of the suspected substance, pour over it a little *pure* diluted sulphuric acid (one measure of acid to ten or twelve of water), and then add a few pieces of *pure* zinc. If the action is too slow, drop in a bit of platinum foil or wire, or better, a drop of platinic chloride solution.

Notice odor of the evolved gas; any considerable amount of arsenic imparts an odor of garlic. This gas (AsH_3) is *very poisonous*, and should be carefully manipulated with.

As zinc and sulphuric acid both are liable to contain arsenic, they should be tested as follows: Place the zinc and diluted acid in a test-tube, and pass the evolved gas into solution of silver nitrate; no blackening of the silver solution should occur in ten minutes: if blackening occurs, reject both the zinc and the acid, or find which is impure and reject it.

Close the tube by a well-fitted cork through which passes a bent glass tube. After the gas has expelled the air in the tube, light it. If the flame has a red color, but little, if any, arsenic is present; if a pale blue color, arsenic is probably present.

Hold the flame directly against a cold porcelain surface. If spots are formed, they may be arsenic, or antimony, or both. Apply reagents to these spots to determine which they are. (Consult text-books.) Extinguish the flame, and heat the glass tube to redness at a point about midway between the angle and the open end. If a dark-colored mirror is formed, it may be an arsenic or an antimony mirror. Arsenic is deposited near the open end of the tube, while the antimony mirror forms near the flame, sometimes on both sides of it. The separation of arsenic from arseniettted hydrogen by burning may be explained by the following equation:

$$4AsH_3 + 3O_2 = As_4 + 6H_2O.$$

Next, pass the gas into a slightly acid solution of silver nitrate; if arsenic is present, a black precipitate of metallic silver will be produced.

$$12AgNO_3 + 2AsH_3 + 3H_2O = 3Ag_2 + As_2O_3 + 12HNO_3.$$

If antimony is also present, a part of the black precipitate will be antimonide of silver (Ag_3Sb).

$$3AgNO_3 + SbH_3 = Ag_3Sb + 3_3HNO_3.$$

The arsenic will now be in solution with excess of silver nitrate, while any antimony will be in the black precipitate (p).

To the clear filtrate add a slight excess of hydrochloric acid, to remove silver, and filter. This filtrate contains arsenious oxide (As_2O_3) and excess of hydrochloric acid. It may be tested by H_2S and other appropriate reagents.

The black precipitate (p) may be treated with warm dilute hydrochloric acid, whereby the antimony is dissolved as $SbCl_3$, and the silver remains as insoluble AgCl. Filter and test the filtrate for antimony.

(*b*) The detection of lead in presence of much bismuth is rather more difficult than the detection of arsenic. The following method gives the best results. Dissolve 10 to 30 grains of the salt in dilute nitric acid, concentrate the solution, and pour into water; by this treatment most of the bismuth is removed as $BiONO_3$, while the lead remains in solution as $Pb(NO_3)_2$, with some bismuth and excess of nitric acid. Filter, and evaporate the filtrate to dryness at a *gentle* heat, so as to expel excess of nitric acid. Treat the residue with hot water, remove by filtration any bismuth subnitrate, concentrate the filtrate, and add a few drops of dilute sulphuric acid (one measure of acid to twenty of water). If only a trace of lead is present, it may require twenty-four hours for the $PbSO_4$ to make its appearance; but, if the above directions are carefully followed, failure is out of the question. Some of the contestants evidently lost the lead in the "second group," when dissolving the sulphides in nitric acid. If the nitric acid is too strong, more or less PbS will be changed to insoluble $PbSO_4$, and remain on the filter, thus:

$$3PbS + 8\,HNO_3 = 3PbSO_4 + 8NO + 4H_2O.$$

If the nitric acid is more dilute, lead nitrate and sulphur are the products:

$$6PbS + 16HNO_3 = 6Pb(NO_3)_2 + 3S_2 + 4NO + 8H_2O.$$

"*Bon Homme.*"—You gave no tests for acetic acid or calomel: they were not present in the sample.

"*Graphic,*" "*Joe,*" *and* "*Semper Idem.*"—Your evidence for calcium and magnesium phosphates was not conclusive; if said phosphates were present, a white precipitate would certainly form in presence of citric acid, but barium and strontium phosphates would act in exactly the same way, as would also an acid (HCl) solution of calcium oxalate. It is not safe to report a base or an acid for which a definite distinctive test has not been obtained.

"*Eucalyptus,*" "*Veritas,*" *and* "*Graphic.*"—Your traces of calcium, magnesium, and sulphuric acid come probably from your filter paper, or from water used in rinsing test-tubes and beakers.

The answers received this month were unusually good: the prize has been awarded to "Veritas."

Next in order of merit are the analyses of "Eucalyptus," "Bob Sawyer," and "Light."

The January sample contains one or more organic substances of the materia medica list. They can be identified by chemical tests.

◆

Opium in China.—The Emperor of China has issued another edict against opium. Smoking opium, especially by officials, scholars, and in the army, is to be forbidden throughout the country; the prohibition to come into effect in three years' time. Generals, governor-generals, and the governors of the various provinces, will, meanwhile, consider and draw up local regulations for giving effect to the order. It is said that the Chinese Envoys in London have persuaded the Imperial Government to take this step.

New Kind of Glass.—Mr. Sidot, of Nancy, is the discoverer of a new kind of glass, which is prepared by heating acid calcium phosphate to a white heat. It may be cast like ordinary glass, and may therefore be used for the manufacture of lenses, prisms, eye-glasses, etc. It can also be used as an enamel for crucibles and other earthen vessels. Hydrofluoric acid does not attack it.

NOTES, QUERIES AND ANSWERS.

[*Under this heading we shall, to the best of our ability, endeavor to answer such questions addressed to us as come within the scope of this journal, provided they are accompanied by the name and address of the writer. Answers to queries received after the 5th of the month will lie over until the next issue.*]

◆

Oenokrine (F. B. W., ————).—This is a reagent-paper, originally prepared in Paris, which was found by Dr. Herman Hager to be merely blotting-paper saturated with lead acetate. It is used to detect certain color-sophistications in wines: in presence of fuchsin, the paper assumes a fine red color, with logwood or hollyhock flowers it turns fine blue, etc.; but the coloring matter of bilberries and that of natural red wine, produce the same reaction, namely a grayish-blue color.

Colorless Tincture of Iodine (U., Kankakee City, Ill.).—A mixture of tincture of iodine and carbolic acid will gradually produce tri-iodophenol, which is soluble in the alcohol. Hence the disappearance of color. The ingredients generally used are:

Compound tincture of iodine	45 min.
Carbolic acid	6 min.
Glycerine	fl. ℥ 1.
Water	fl. ℥ 5.

Mix. This is sometimes yclept carbolate of iodine. The color disappears in from eight hours to ten days.

Gutta Percha Cement (E. E., Lisbon Falls, Me.).—This correspondent wants the formula of a solution of gutta percha in carbon disulphide (bisulphide of carbon), or benzole, from which the latter does not evaporate. This is rather a difficult matter. We can only suggest the following: 1. Either keep your cement in very small vials, tightly closed, so as to open only one at a time. 2. Keep your cement in a vial or bottle with an orifice at the bottom; or in a globe-funnel, and pour on top of it water, which will protect it from evaporating. The formula for preparing the cement is very simple, and consists in dissolving one part of gutta percha in from six to twelve parts of carbon disulphide, according to the consistence desired.

Sultana-Raisins (C. C., Irving, Kans.).—This species of raisin is distinguished by being devoid of kernels. It is the dried fruit of a variety of grape, called *Tseker-de-Ksis*, ("without kernel") growing in Anatolia, and exported generally from Smyrna. Of late years the demand for this kind of raisins has been greatly increased, and large districts have commenced its cultivation. Persia has also furnished considerable quantities during the last two years, which were shipped to England by way of Suez; and the attempts to cultivate it in Greece and the Ionian Islands are likewise said to have been very successful.

Salts of Gold (W. H. G., Zanesville, O.).—Photographers are in the habit sometimes of using this expression for chloride of gold alone, or for chloride of gold and sodium.

Divi-Divi (same).—Divi-divi, or Dividibi, or Libidivi, or Libidavi, are the fruits of *Cæsalpinia coriaria* Willd., forming twisted or S-shaped, dry, brittle, shining, chestnut-brown pods, containing between the external and internal shell a brittle ochre-colored mass. This is rich in tannin, containing between nineteen and forty-nine per cent. They were first brought to Europe by the Spaniards in 1768. At present they are exported from Caracas, Maracaibo and Curaçao, and are used for tannin, and dyeing of leather.

St. John's Bread (the same).—The pod of Ceratonia Siliqua L., the Carob tree, used as food in Africa and East Indies, and warm countries of Europe. They are much used by singers as a supposed means to improve the voice.

Colored Fires (R. A. P., San Francisco, Cal.).—All colored flames increase in brightness with the rapidity of combustion; but the substances which impart the color do not all bear an equally high temperature. It is therefore necessary to properly apportion the quantity of potassium chlorate or nitrate, and of charcoal, so as to produce the exact degree of temperature at which the colored vapor is best given off. Barium nitrate requires a considerably high heat to give out a handsome bluish-green flame. Hence, charcoal cannot be used, and the quantity of potassium chlorate must be increased. Strontium gives a fine red only at low temperatures; hence, the presence of charcoal and diminution of potassium chlorate become necessary. The same is the case with the yellow flame produced by sodium nitrate. Cupric oxide and sulphate produce a handsome blue only at high temperatures; at a lower degree of heat, the flame is apt to be violet. It is always best to arrange the latter flame so that it is not seen itself, but only its reflection. According as it is desired to have a rapid flame or a more quietly-burning light, the following mixtures will be found best suited for the purpose.

CAUTION: The potassium chlorate, previously powdered and sifted by itself, must, under all circumstances, be added to the mixture last. It must not be rubbed up with any other body, but must be carefully and gradually mixed in portions with a portion of the other mixture, best by means of a wooden spatula. Never use any flowers of sulphur, which always contain sulphuric acid, but only pure washed sulphur. Lastly, never make any colored fires, except you are sure, that you have taken all possible precautions not to blow up anybody but yourself!

				Flame.	Light.
GREEN:	Barium nitrate.........parts.			15	12
	Sulphur....................			7	6.5
	Black sulphuret of antimony..			0	0.3
	Potassium chlorate...........			8	11.4
				30	30
RED:	Strontium nitrate............			20	17.2
	Sulphur			6.5	5.4
	Charcoal....................			1	1
	Black sulphuret of antimony..			0	2.1
	Potassium chlorate			2.5	4.5
				30	30.2 (pack loosely!)
YELLOW:	Sodium nitrate..............			20	21.4
	Sulphur....................			5	5
	Charcoal....................			1	0
	Black sulphuret of antimony..			1	2.2
	Soot or fine lamp-black......			0	1.4
				27	30
WHITE:	Potassium nitrate............			21	20
	Sulphur....................			7	5
	Black sulphuret of antimony..			2	5
				30	30
BLUE:	Oxide of copper.....	5		3	6
	Sulphur............	5		7	10
	Sodium nitrate.....	0	or	12	6
	Calomel...........	2		0	0
	Potassium chlorate..	8		9	18
		20		31	40

Prescription (W. H. G.)—The word 'Teranturet,' in the remarkable but unpublishable prescription you sent us, is most likely a mistake of your own. The original probably read: "Bene terantur et adde," "they shall be well rubbed up; and add, etc."

Inulin (N. I., Hamilton, Ky.).—This is a variety of starch, occupying a place between true starch and sugar. It occurs only in plants belonging to the group Synantheræ of the Composite Family, and perhaps a few closely related plants, being contained in the subterranean portions of more than one year's growth. It is found in the parenchyma of the bark, and the medullary rays; never, however, in grains, but always in solution. It was first discovered by Val. Rose in the root of *Inula Helenium* L., whence the name. It has also been called Helenin Alantin, and Dahlin. Inulin is not colored blue by iodine. It dissolves in about three parts of boiling water, forming a clear, thin fluid solution, which deposits nearly all the inulin on cooling. See *Dragendorff, Materialien zu einer Monographie des Inulins*, 8vo, St. Petersburg, 1870.

Phtalic or Phthalic (W. H., New York).—You are quite correct in pointing out that this word and some others containing the compound "ph-th" should not be spelled with "ph-t." We have to say, however, that custom has a great influence on technical terms, and we believe you will more frequently find the spelling phtalic than phthalic.

Lip-Salve (Arth. and W. J., Jefferson City, Mo.).—The following has lately been recommended: White wax, 1 drachm; Oil of almonds (sweet), 1½ ounces; Conc. oil of rose (Allchin's), 3 drachms. Melt, and when nearly cold, add six drops of otto of roses.

Syrup of Bromide of Zinc (R. G., Toledo, Ohio).—This is a preparation recommended in epilepsy by Dr. Wm. A. Hammond, of this city, and consists of bromide of zinc, ℥ i., simple syrup, ℥ iv.—mix; of which the dose is ten drops three times daily, gradually increased, if necessary, to fifty, sixty, or even more in some cases.

Correction.—The item on page 349 of the foregoing number, headed "Removing Iodine Stains," should have read instead, Removing Nitrate of Silver Stains.

PRESCRIPTIONS AND FORMULÆ.

Ergotine for Hypodermic Injections.—M. Moutard Martin gives the following formula for hypodermic injections in metrorrhagia:

Ergotine (de Bonjean)......... 2 grammes.
Glycerine,
Water.....................āā. 15 "
M.

Quinia Solution for Hypodermic Use.—Mr. Fr. Uerleia, referring to the formulæ of the above nature, published on page 351, writes to us that the muriate of quinia is soluble in 15 parts of water, and does not cause inflammation when properly injected. He considers it as in all respects the best form of the alkaloid to be used for this purpose.

Gelatine Varnish.—A writer in *Anthony's Photographic Bulletin* recommends for a variety of purposes, a thin solution of gelatine, to which a few drops of a saturated solution of bichromate of potassium or ammonium have been added. After which the mixture requires to be well shaken. He says: "Cover a negative with the solution, dry and expose to the sun, and it makes the finest surface to retouch upon I have ever tried. The pencil-marks can be easily erased, if needed. As a varnish for photographs, pencil drawings, etc., it has no equal. . . . It renders vessels perfectly water-tight, such as wooden baths, dishes, etc. One or two coats, dried and exposed to the sun, are all that are necessary, as the film is not soluble in water, either hot or cold. I have also applied the solution for the preservation of fruit, eggs, etc. It can be applied to a thousand uses not now thought of."

Removal of Stains.

THE following notes appeared some time ago in the *Apothek. Zeitung*. The stains easiest to remove are those of sugar, gelatin, blood, and albumen; a simple washing with water is all that is necessary for all kinds of fabrics.

GREASE SPOTS.

For *white linen or cotton* goods, use soap or weak lye.

For *colored calicoes*, warm soap-suds.

For *woollens*, soap-suds or ammonia.

For *silks*, benzine, ether, ammonia, magnesia, chalk, yolk of egg, with water.

PAINT, VARNISH, AND RESIN STAINS.

For *white or colored cotton and woollen* goods, oil of turpentine or benzine, followed by soap-suds.

For *silk*, benzine, ether, soap; hard rubbing is to be avoided.

[For all kinds of fabrics *chloroform* is best.]

STEARIN, SPERM CANDLES.

For all kinds, use 95 per cent. alcohol.

WINE AND FRUIT STAINS.

White cotton or linen. Fumes of burning sulphur, warm chlorine water.

Colored cottons or woollens. Wash with tepid soap-suds or ammonia.

Silks. The same, with very gentle rubbing.

ALIZARINE INK.

White cottons and linens. Tartaric acid in solution; the older the stain, the more concentrated the solution should be.

Colored cottons and woollens aud silks. A weak solution of tartaric acid, if the color allows of its use.

RUST, NUTGALL INK.

White cottons and linens. Warm solution of oxalic acid, dilute muriatic acid, followed by granulated tin.

Colored cottons and woollens. Repeated washings with a solution of citric acid, if the color is fast.

Silks. Do nothing; all attempts only make things worse.

LIME, LYE, ALKALIES.

White cottons and linens. Wash with cold water.

Colored goods and silks. A weak solution of citric acid applied with the tip of the finger to the spot previously moistened with water.

ACIDS, VINEGAR, ORANGE JUICE, ETC.

White cottons and linens. Wash with pure water, or warm chlorine water.

Colored goods or silks. Ammonia, diluted according to the fineness of the tissue and the delicacy of the color.

TANNIN, WALNUT SHELLS.

White cottons and linens. Javelle Water (Liquor sodæ chlorinatæ), warm chlorine water, concentrated solution of tartaric acid.

Colored goods or silks. Chlorine water, diluted according to the tissue and its color, each application to be followed by washing with water.

TAR, AXLE-GREASE.

White cottons and linens. Soap, oil of turpentine, and water, each applied in turns.

Colored cottons and woollens. First, smear with lard, rub with soap and water, and let it stand for a short time; then wash with oil of turpentine and water, alternately.

Silks. The same, using benzine instead of turpentine, and dropping the water from a certain height on the under side of the stain. Avoid rubbing.

A Kerosene Liniment, which is recommended very highly by Dr. A. G. Hobbs, of Indiana, is composed as follows:

℞.	Ol. petrolii	℥ ij.
	Tinct. opii	ʒ iv.
	Tinct. arnicæ	ʒ v.
	Tinct. stramonii	ʒ iv.
	Spts. ammon. aromat	ʒ vi.
	Spts. camphoræ	ʒ v.
	Ol. origani	ʒ iv.
	Chloroformi	ʒ iij.
	M.	

To be well rubbed in twice in twenty-four hours, or p. r. n.

Improved Carmine Ink for Draughtsmen.—The solubility of carmine lake in caustic aqua ammonia is attended with this disadvantage: that, in consequence of the alkaline properties of ammonia. the cochineal pigment will in time form a basic compound, which, in contact with a steel pen, no longer produces an intense red, but rather a blackish color. To avoid this evil, the *Polytech. Notizblatt* recommends the following:—Triturate one gramme of pure carmine with fifteen grammes of acetate of ammonia solution, and an equal quantity of distilled water in a porcelain mortar, and allow the whole to stand for some time. In this way, a portion of the alumina, which is combined with the carmine dye, is taken up by the acetic acid of the ammonia salt, and separates as a precipitate, while the pure pigment of the cochineal remains dissolved in the half-saturated ammonia. It is now filtered, and a few drops of pure white sugar syrup added to thicken it. A solution of gum arabic cannot be used to thicken it, since the ink still contains some acetic acid, which would coagulate the bassorine, one of the constituents of the gum.

Correction.—We have a note from Dr. N. N. Davis, of Chicago, calling attention to the fact that the prescription published on page 351 of our last number, and consisting of hydrochlorate of ammonium, tinctures of stramonium and cimicifuga, and syrup of liquorice, should read ʒ iij. instead of ℥ iij. of the first ingredient. The error occurred in the source from which we obtained the formula.

ITEMS.

The Therapeutical Society.—This newly-organized society, to which we referred on page 290, differs from most medical organizations in that the holding of the meetings will form but a small and subordinate part of its plan. It is designed that each member shall be doing work for the Society in his daily rounds of practice. To this end precise and definite points in relation to the action of selected remedies, under specified conditions, will be given out, and the members will be expected to employ every opportunity, which their practice affords, to accumulate accurate observations upon these points. The meetings will be merely for the purpose of bringing these observations before the Society, and for laying out new work, both of which will be done through the agency of committees. The following extract from its by-laws is published as an illustration of its method of working:

"The work of the Society shall be prepared by committees, or bureaus, of which a number shall be created, each one intrusted with the study of a group of remedies; as, for example, a Committee on Antipyretics, one on Neurotics, one on Surgical Appliances, etc.

"New committees shall be formed at the request of any three members.

"Members may elect with which committee or committees they will serve.

"Each committee shall have its own organization.

"All communications shall be referred to the proper committee, or, in cases of great importance or urgency, to a special committee appointed by the President.

"The Council shall determine what committee or committees shall occupy the time of a meeting, and the committee shall assign parts to its members.

"Each committee having an evening or part of an evening assigned to it, shall prepare a written report of its observations and conclusions, which, after being laid before the Society, shall be given to the Secretary for publication.

"Any member may submit a written statement of his experimental or clinical use of a remedy to the appropriate committee, and thereby become temporarily a member of said committee.

"Any committee may invite the attention of the Society at large to any point relating to its own branch, and call for observations upon such point."

The meetings will be held on the second Friday of February, April, June, October, and December. Dr. James R. Leaming (160 W. 23d Street) has been elected President, and Dr. E. C. Seguin (41 W. 20th Street), Corresponding Secretary.

Alumni Association of the College of Pharmacy of the City of New York.—The next regular meeting of this Association will be held on Thursday, January 10, 1878, at 8 P.M., at the College rooms. A full attendance of the Executive Board is desired by the President, as business is pending which will require their personal consideration. The meeting held in October last was a pronounced success, and a number of very creditable scientific papers were read by members. (See page 366.) We sincerely hope that the members will not discontinue their efforts to make the meetings entertaining and instructive.

H. L. COIT, Secretary.

The Maine State Pharmaceutical Association met at Portland on the 16th of October.

The old officers were re-elected, and thirty-five new members enrolled. The Committee on Legislation suggested a change of the law, so that a certificate of registration shall only cover the business of one shop; making a revocation of certificates possible after convictions for infraction of laws; giving registered apothecaries the right to furnish spirits for medicinal uses, etc.

Interesting discussions occurred on various points during the session. All the members showed a lively interest in the welfare of the society and the improvement of the standing and education of apothecaries in the State.

The time of the annual meeting was changed from October to August, and the intention is to make this in future a general good time for the members of the drug trade throughout the State.

The "Pharmacy" of the Old Hôtel-Dieu.—A recent writer from Paris, speaking of the old Hôtel-Dieu, which is undergoing demolition, refers to the "cagnards," one of the most curious and, at the same time, least-known portions of this historical edifice. The cagnards are the rooms built under the water terrace and above the cellars. In the reign of Henry IV. (that is, at the beginning of the seventeenth century), all but one of these rooms were destroyed, and it has since been occupied as the pharmacy of the establishment. None of the shine and elegance of more modern establishments were to be seen. The roof was vaulted, the counters, the seats, and other accessories were in solid oak, blackened with age and polished by continual friction. Instead of colored bottles, earthenware and pewter jars of the strangest forms lined the shelves, reminding one of the days of Molière's apothecaries, or the dear old Speziaria of the once-existing Italian convents. The bronze mortar in use dated from the reign of Louis XIII. (1610–1643), and the set of brass weights were of no mean antiquity.

M. Ritter, Professor of Medical Chemistry and Toxicology in the Medical School of Nancy, has been appointed Director of the Clinical Laboratory.

The Eucalyptus in Algeria. Consul-General Playfair writes: "Formerly it was impossible for the workmen at the great iron mines of Mokta-el-Hadid to remain there during the summer; those who attempted to do so died, and the company was obliged to take the laborers to and from the mines every morning and evening, 33 kilos each way. From 1868 to 1870 the company planted more than 100,000 Eucalyptus trees, and now the workmen are able to live all the year through at the scene of their labors.

Another Mrs. Partington. A lady quite well known in Philadelphia, who spent the summer at Newport this year, asked her physician (also a well-known Philadelphian), if he did not think the atmosphere of Newport enervating? The physician assured her that his opinion was quite the contrary, that he considered it decidedly tonic. "Do you, really?" was her rejoinder. "It seems to me as if there is not enough *sozodont* in the atmosphere!"

M. Mandon, Adjunct Professor of Therapeutics in the Medical School of Limoges, has been appointed Professor.

Poisonous Tin Ware.—During a recent inspection of tinned ware, by order of the Council of Hygiene and Salubrity of Paris, it was discovered that a great number of tinners used a compound containing a considerable proportion of lead, instead of pure tin, for tinning kitchen utensils.

Professor Sidney A. Norton has accepted the chair of Chemistry in the Starling Medical College, Columbus, Ohio, recently vacated by Professor Wormley.

Druggists' and Chemists' Glassware.—The manufacture of these wares in the United States is confined to a few establishments, most of which are to be found in New Jersey; the exceptions being in Pittsburgh and on Long Island. It is said that in this special line of glassware no fewer than 60,000 molds, and a dozen different qualities of glass, are employed.

Production of Manganese in Louisiana.—The New Orleans *Times* says: "The manganese mines, near Cave Spring, are being worked with fair success. The company have their mines in full blast, and about sixteen tons per day of twenty-four hours are being extracted. The quality of the ore is seventy-six per cent. of peroxide of manganese."

Glass Bottles from Furnace Slag.—It has been proved by actual experiment that good bottles can be made from blast-furnace slag, and extensive works are now in process of erection at Finedon, in Northamptonshire, where, in a few months, "Britten's Patent Glass Company" will be producing large quantities of glass bottles from that unpromising and hitherto useless material.

The American Export of Petroleum has increased wonderfully within the last four years, until, to-day, there is scarcely a civilized spot on the face of the globe to which this cheapest of all illuminators is not shipped. The wells of Pennsylvania and West Virginia have yielded in all about 80,000,000 barrels, which has a value of nearly four hundred million dollars at the seaboard.

Error in the U. S. Dispensatory.—A very serious error occurs in the last (14th) edition of the U. S. Dispensatory, under the head of *Liquor Barii Chloridi*, where the dose is given as 50 drops, corresponding to about 16 grains of the salt. It should be 5 *drops*.

The Last of the "Pharmacographias."—Let those who have been so fortunate as to secure a copy of this noble work duly prize their possession, for this is what the *Chemist and Druggist* of October 15th says regarding it: "The copy of Hanbury's 'Pharmacographia,' which we gave to the winner of our botanical contest last month, was, we are informed, the last in the hands of the publishers, and it also appears to be very unlikely that a new edition will be reproduced."

Balata is the name of a product resembling caoutchouc or gutta-percha, occupying a rank in usefulness between these, and is already in great demand in Europe for manufacturing purposes. It is derived from the South American "Bully-tree," Chrysophyllum Cainito.

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